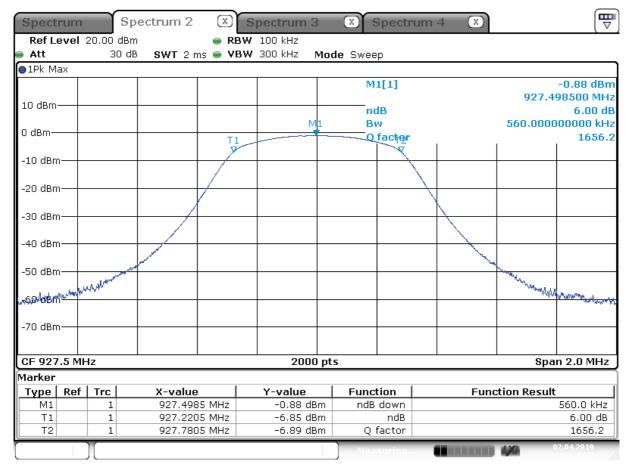


Date: 2.APR.2019 13:59:08



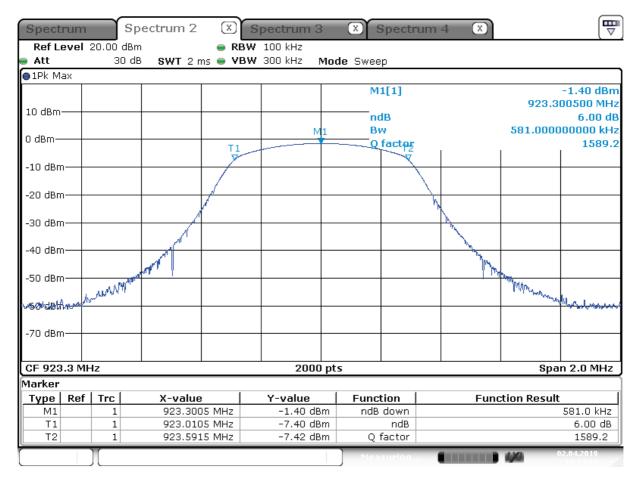


Date: 2.APR.2019 12:19:40



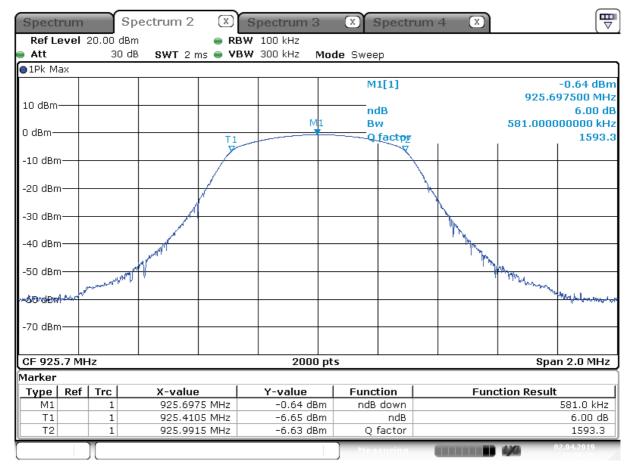
#### SPREAD FACTOR 12

### Frequency 923.3 MHz



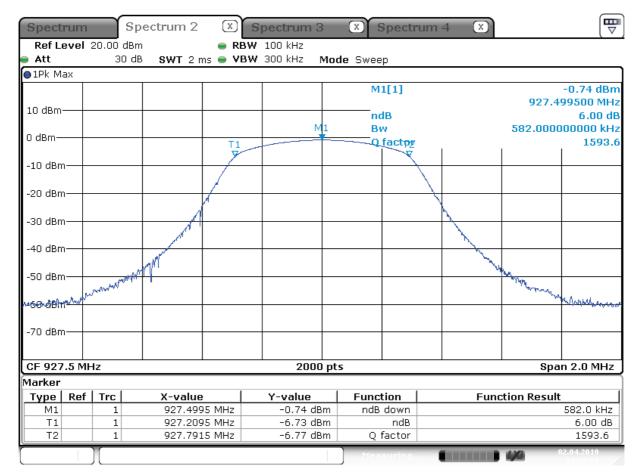
Date: 2.APR.2019 14:14:14





Date: 2.APR.2019 13:56:01





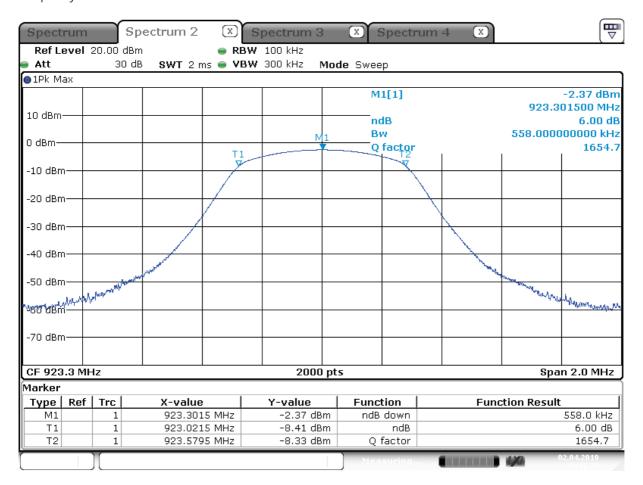
Date: 2.APR.2019 12:22:59



RF OUTPUT 2

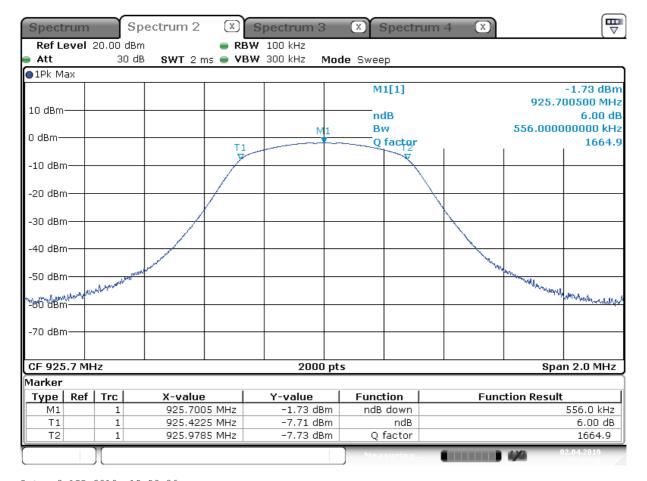
#### SPREAD FACTOR 7

Frequency 923.3 MHz



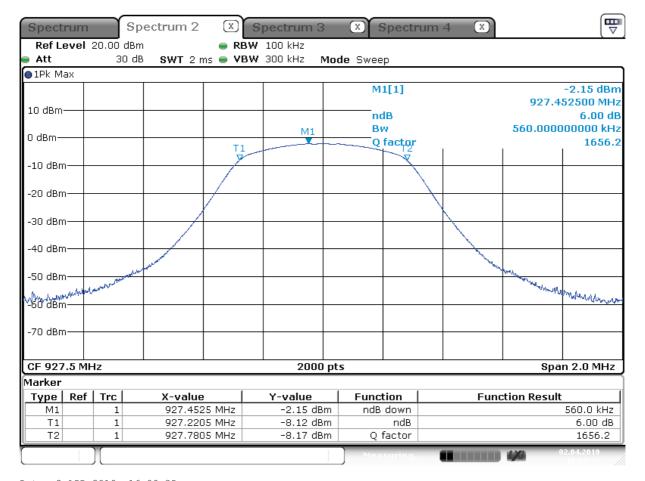
Date: 2.APR.2019 15:41:39





Date: 2.APR.2019 15:59:36



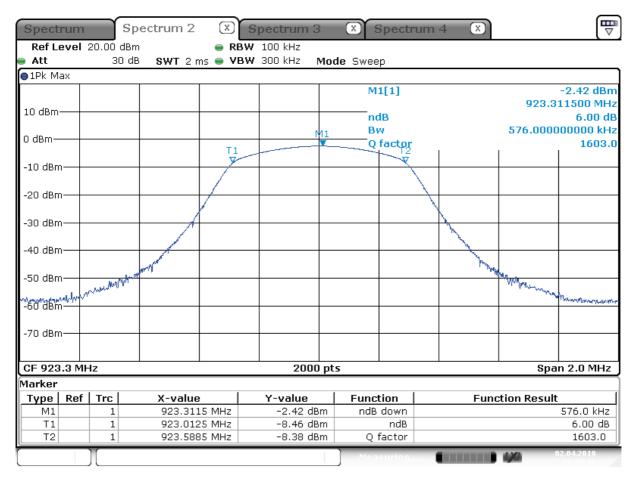


Date: 2.APR.2019 16:09:35



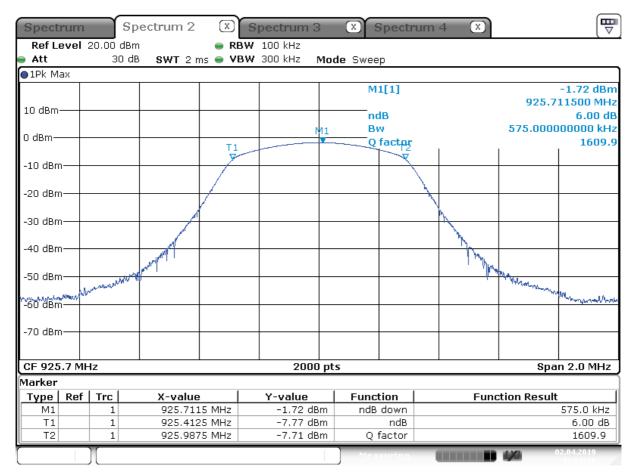
#### SPREAD FACTOR 12

#### Frequency 923.3 MHz



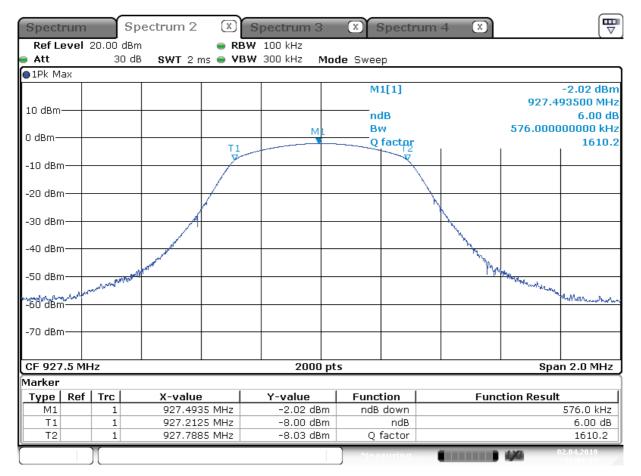
Date: 2.APR.2019 15:38:40





Date: 2.APR.2019 16:01:16





Date: 2.APR.2019 16:06:19

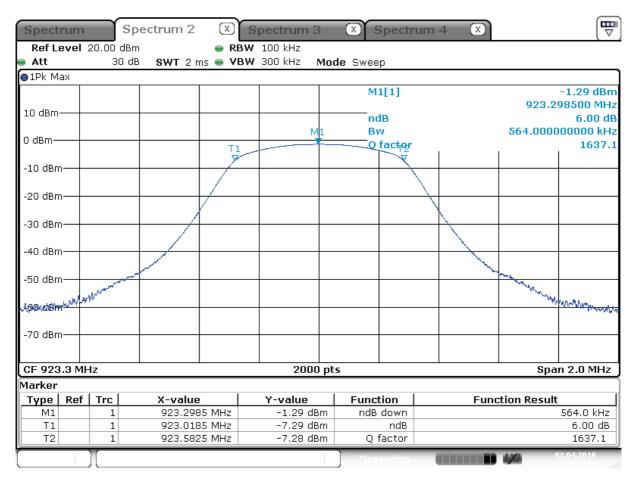


Module 4

**RF OUTPUT 1** 

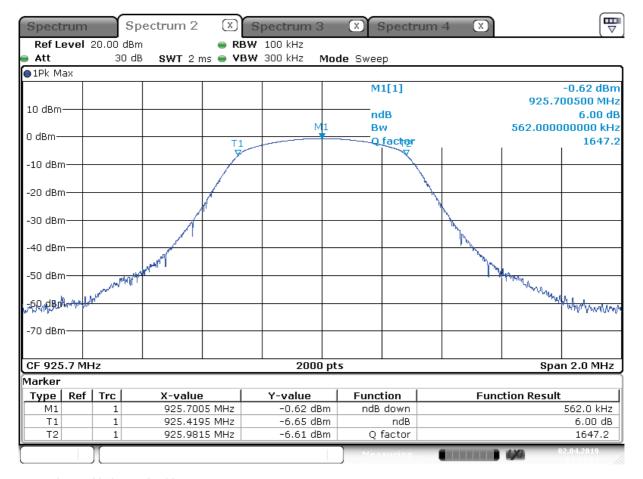
SPREAD FACTOR 7

Frequency 923.3 MHz



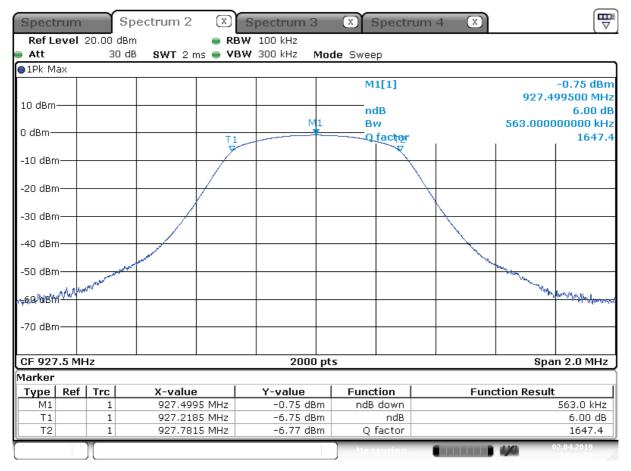
Date: 2.APR.2019 14:22:52





Date: 2.APR.2019 14:31:03



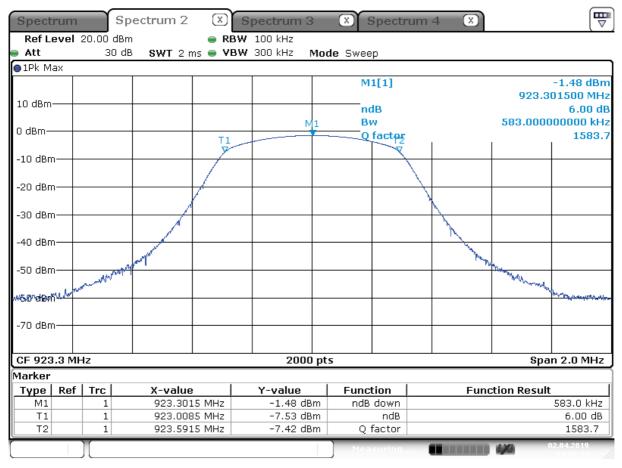


Date: 2.APR.2019 14:42:50



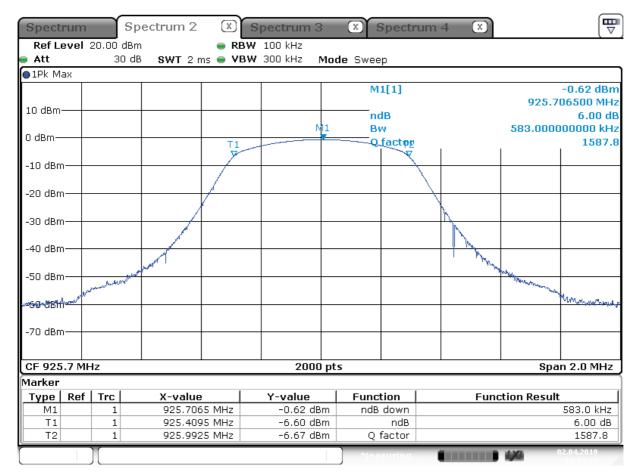
#### SPREAD FACTOR 12

#### Frequency 923.3 MHz



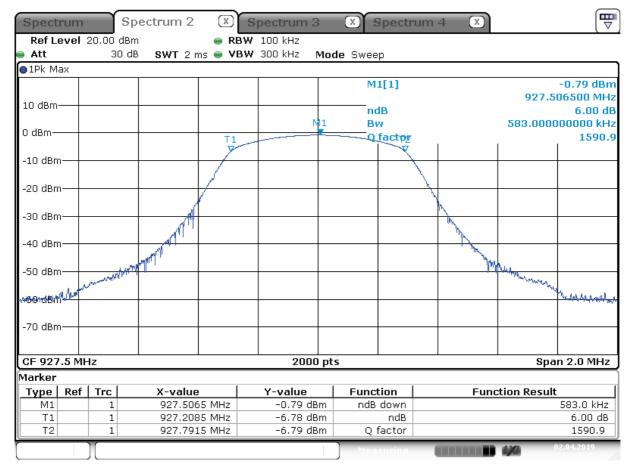
Date: 2.APR.2019 14:19:34





Date: 2.APR.2019 14:33:21





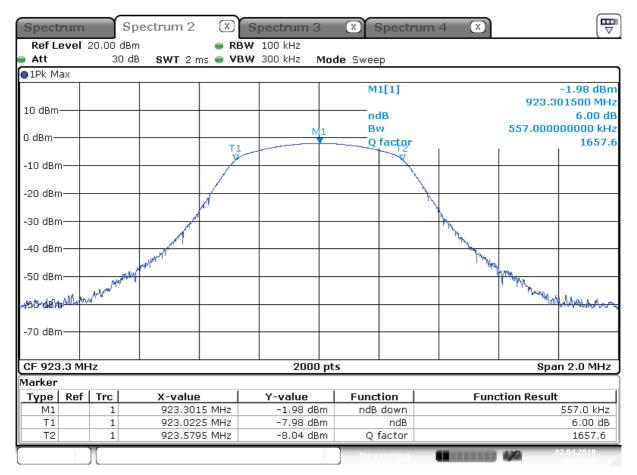
Date: 2.APR.2019 14:39:45



## RF OUTPUT 2

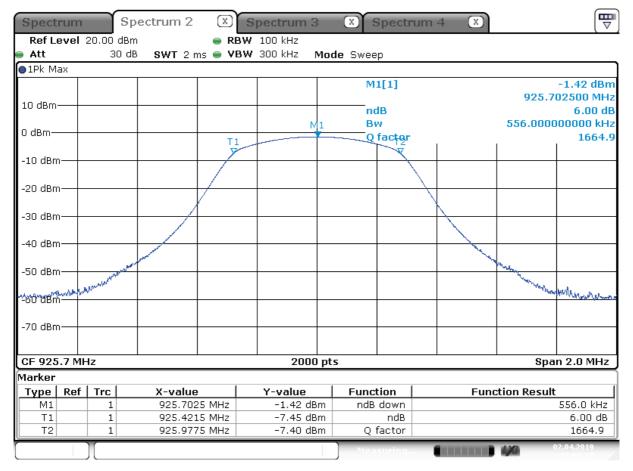
#### SPREAD FACTOR 7

Frequency 923.3 MHz



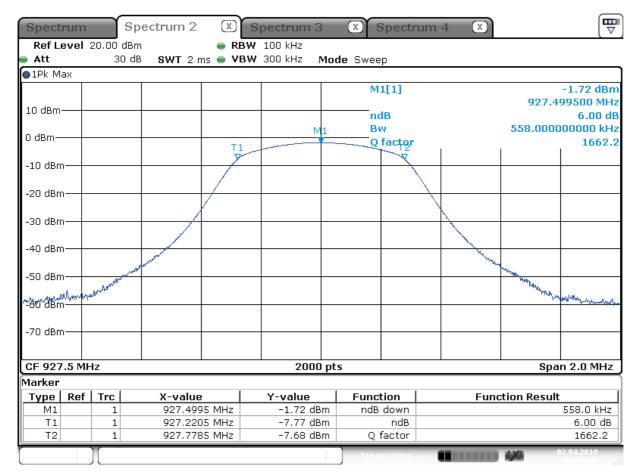
Date: 2.APR.2019 15:09:54





Date: 2.APR.2019 15:05:17



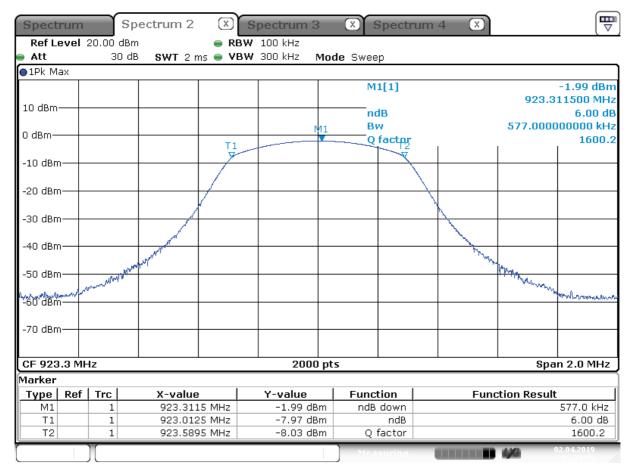


Date: 2.APR.2019 14:54:31



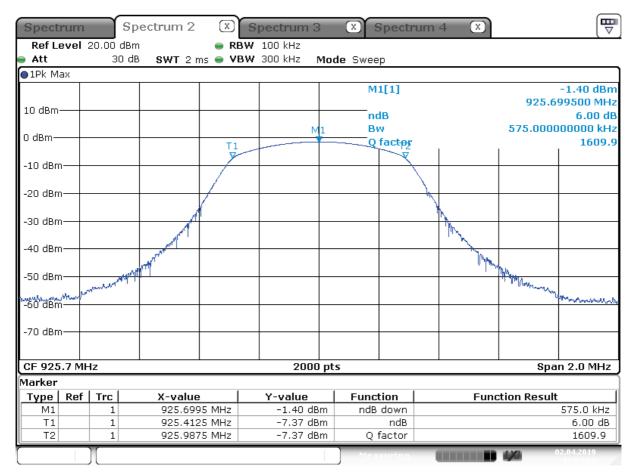
#### SPREAD FACTOR 12

### Frequency 923.3 MHz



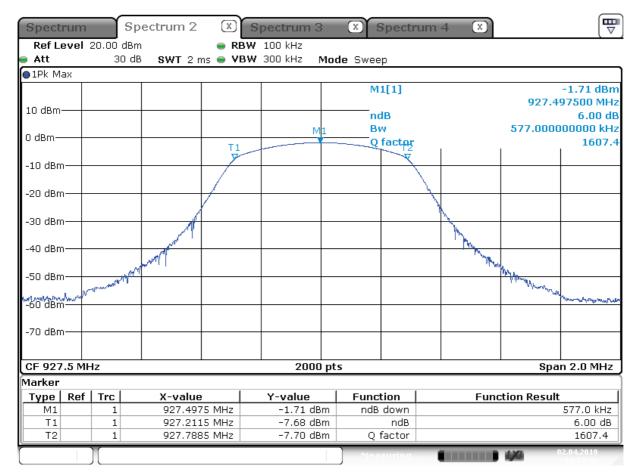
Date: 2.APR.2019 15:19:36





Date: 2.APR.2019 15:03:21





Date: 2.APR.2019 14:57:42



# APPENDIX 5: 99% bandwidth

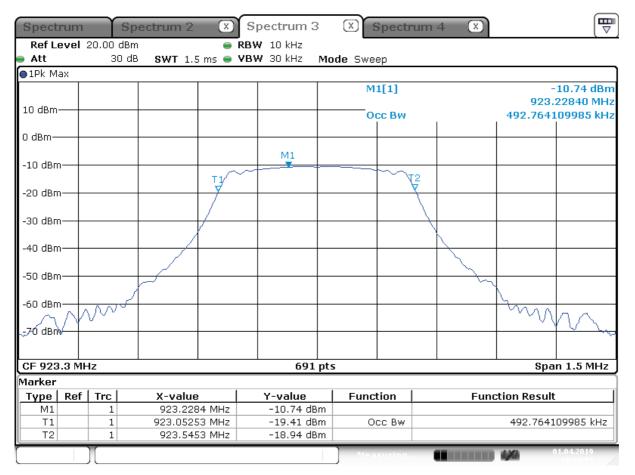
All measurement are realized with 30dBm

Module 1

RF OUTPUT 1

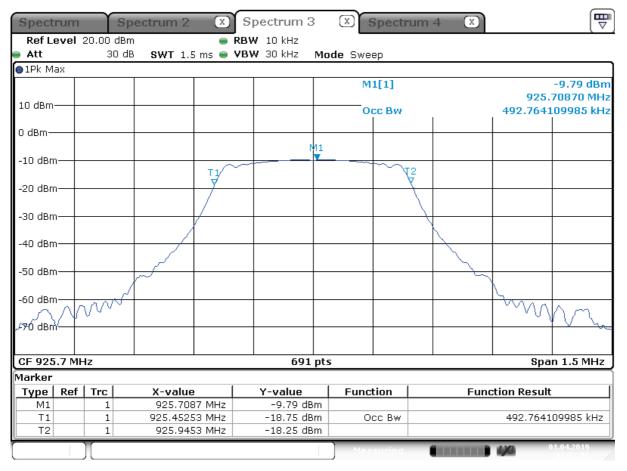
SPREAD FACTOR 7

Frequency 923.3 MHz



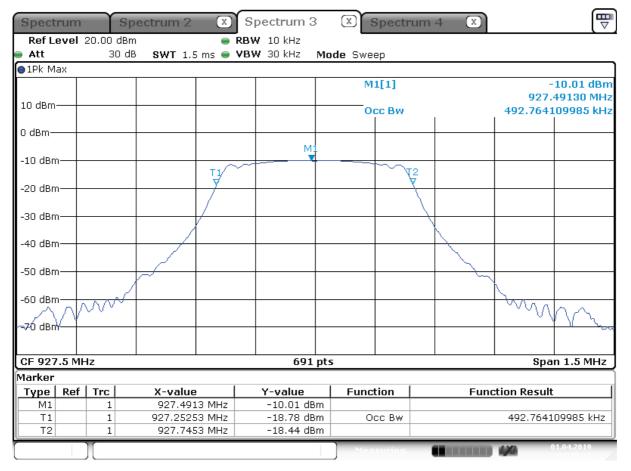
Date: 1.APR.2019 10:44:10





Date: 1.APR.2019 11:23:08



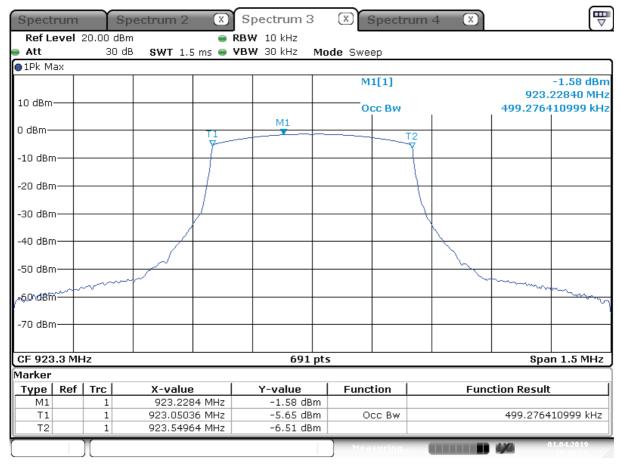


Date: 1.APR.2019 11:15:17



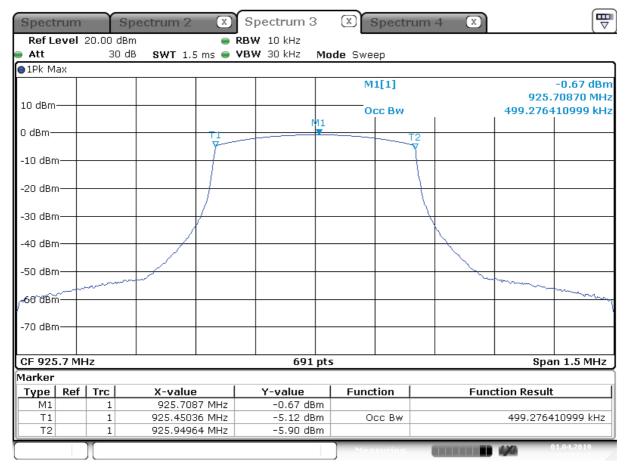
## SPREAD FACTOR 12

### Frequency 923.3 MHz



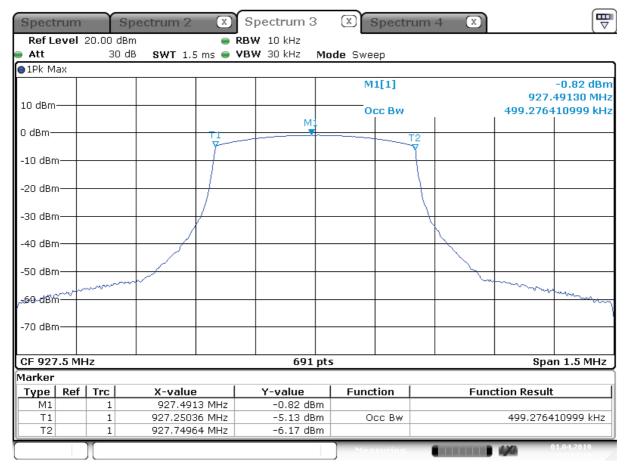
Date: 1.APR.2019 10:49:56





Date: 1.APR.2019 11:21:38





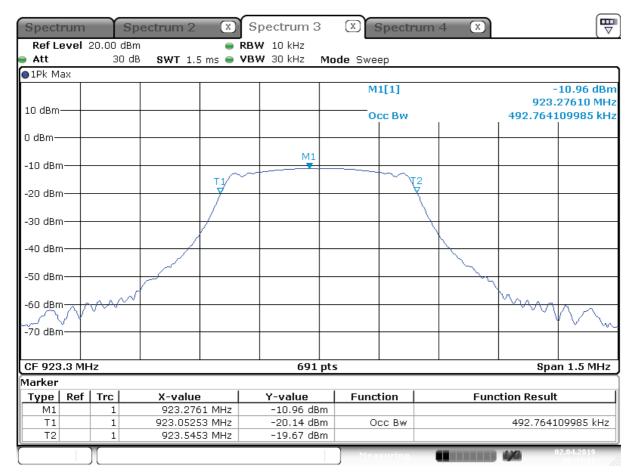
Date: 1.APR.2019 11:11:20



## RF OUTPUT 2

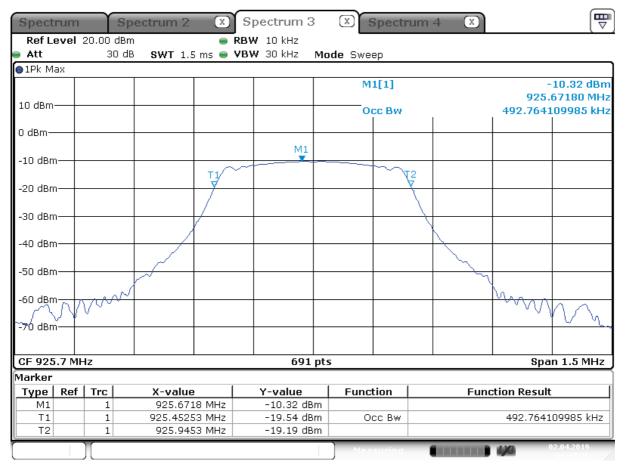
#### SPREAD FACTOR 7

Frequency 923.3 MHz



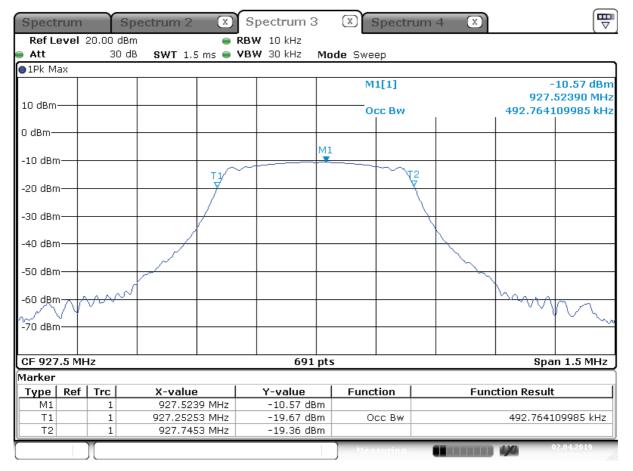
Date: 2.APR.2019 16:44:12





Date: 2.APR.2019 16:47:45



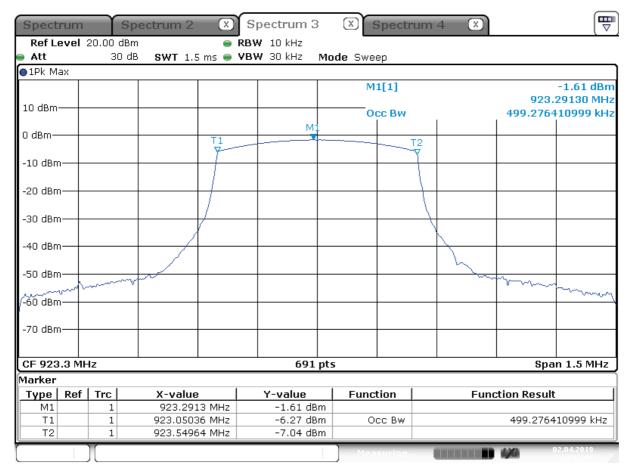


Date: 2.APR.2019 16:58:54



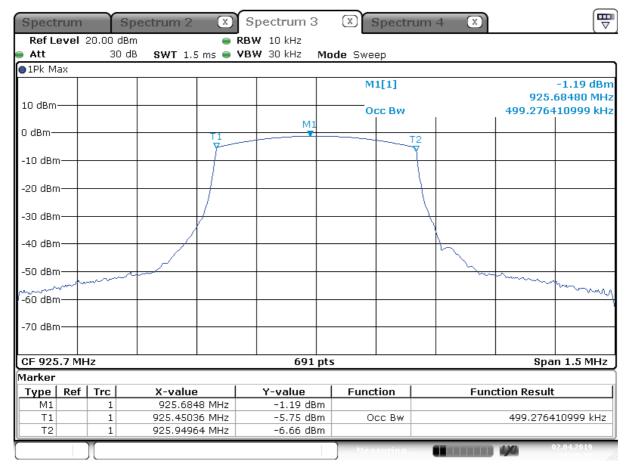
## SPREAD FACTOR 12

#### Frequency 923.3 MHz



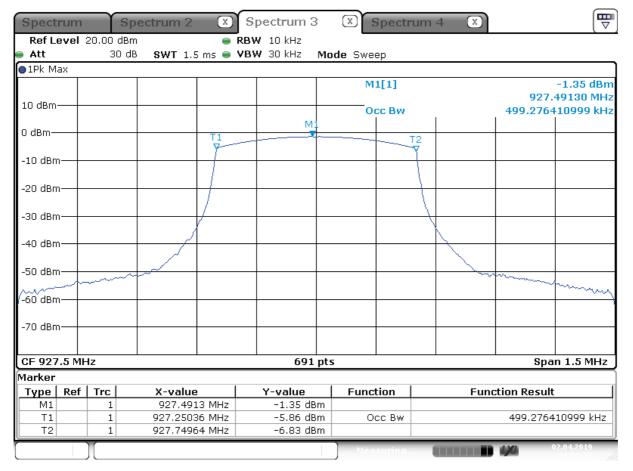
Date: 2.APR.2019 16:42:38





Date: 2.APR.2019 16:49:38





Date: 2.APR.2019 16:55:17

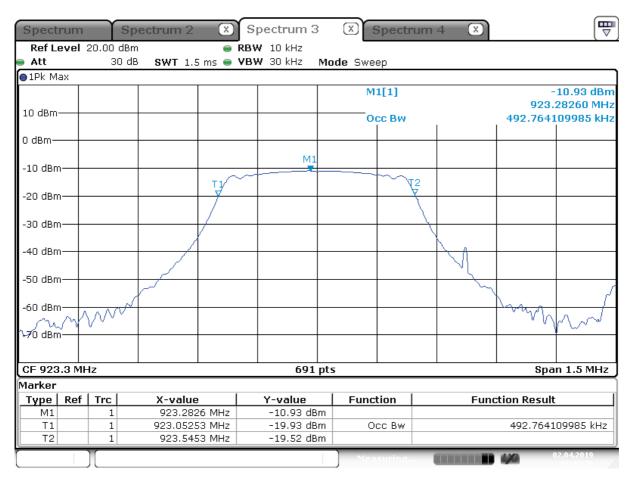


Module 2

RF OUTPUT 1

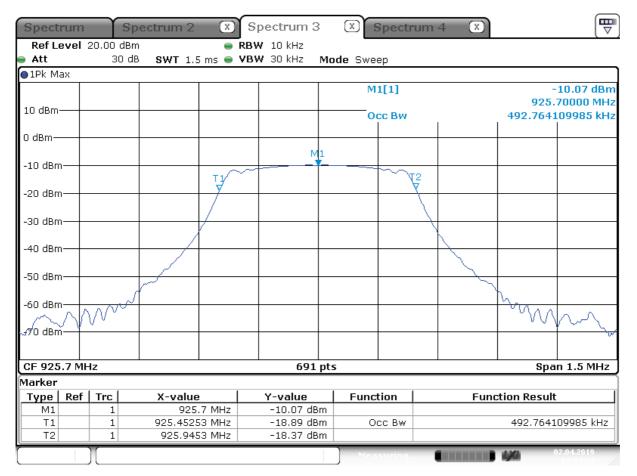
SPREAD FACTOR 7

Frequency 923.3 MHz



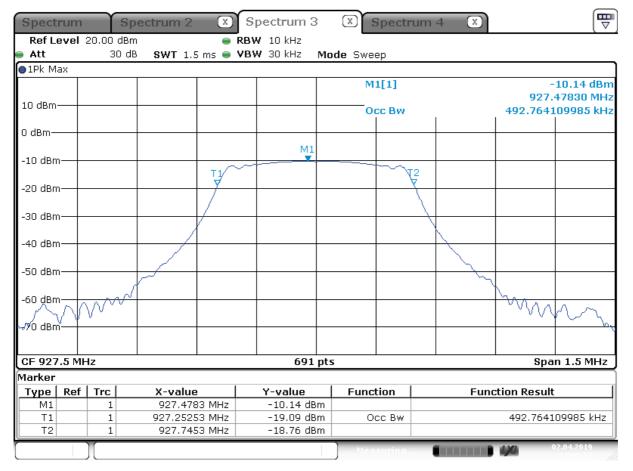
Date: 2.APR.2019 11:44:26





Date: 2.APR.2019 11:54:29



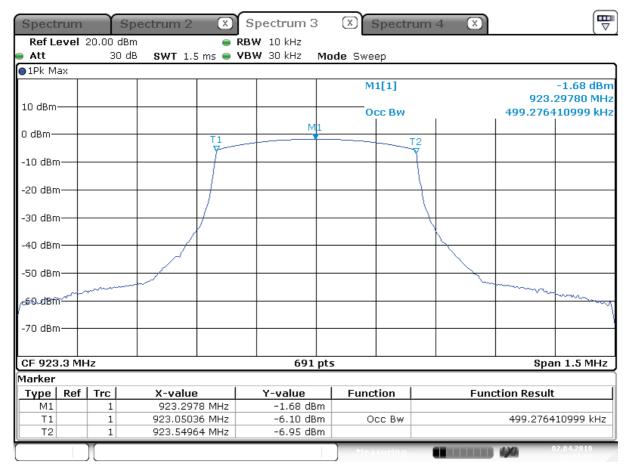


Date: 2.APR.2019 12:05:57



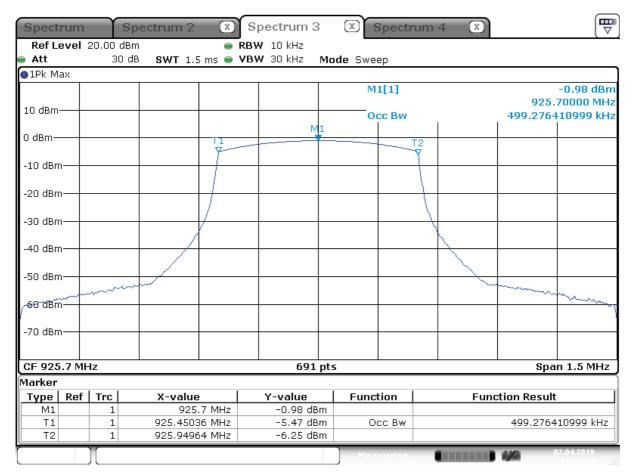
## SPREAD FACTOR 12

#### Frequency 923.3 MHz



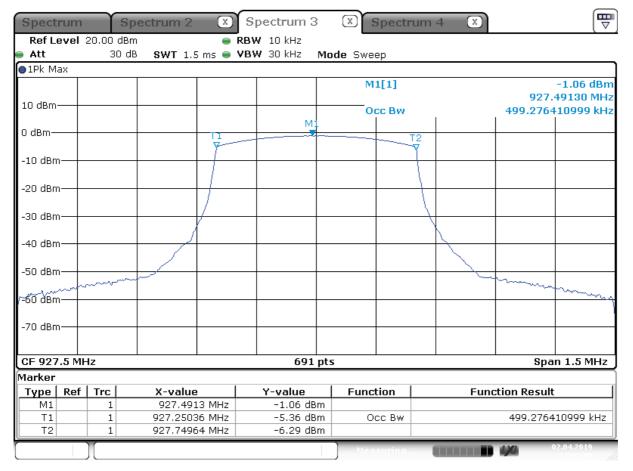
Date: 2.APR.2019 11:47:59





Date: 2.APR.2019 11:53:46





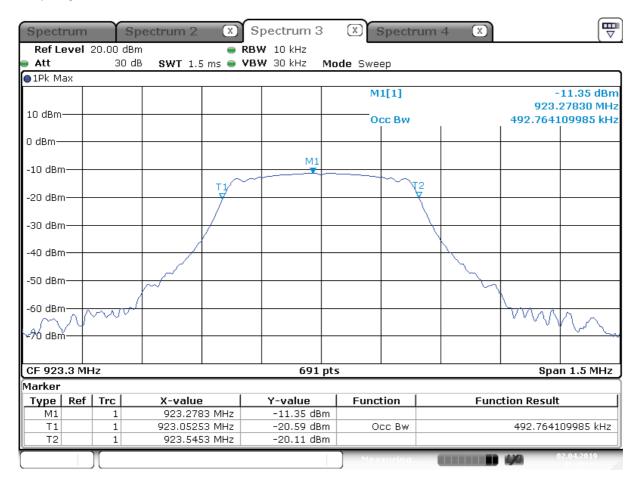
Date: 2.APR.2019 12:03:41



RF OUTPUT 2

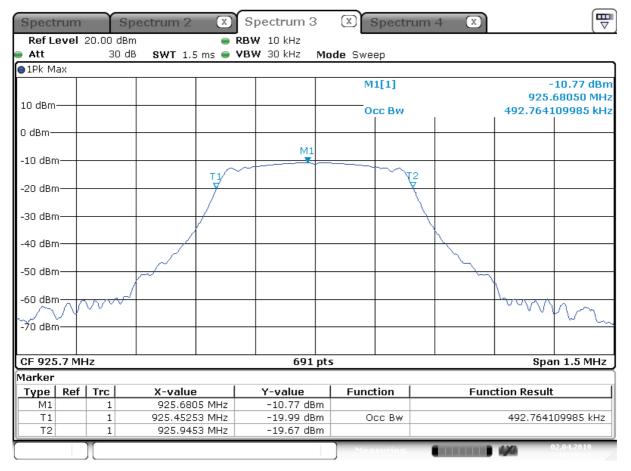
#### SPREAD FACTOR 7

Frequency 923.3 MHz



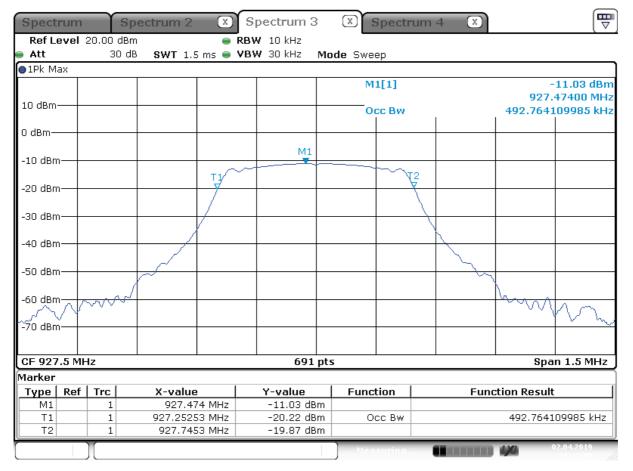
Date: 2.APR.2019 16:36:12





Date: 2.APR.2019 16:26:25



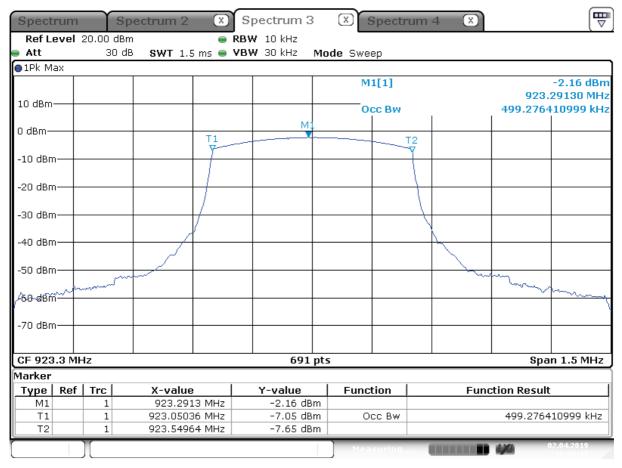


Date: 2.APR.2019 16:12:40



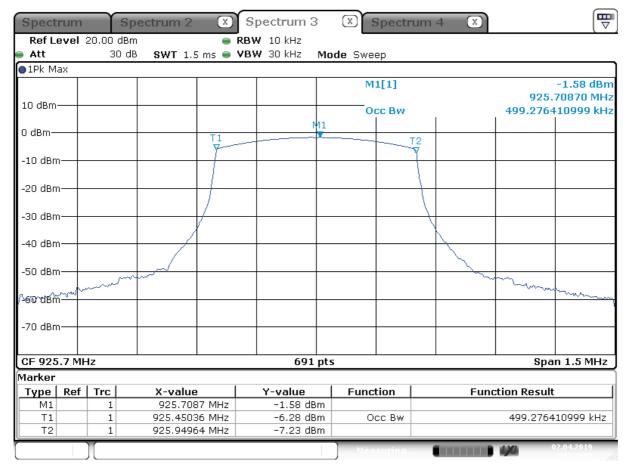
## SPREAD FACTOR 12

#### Frequency 923.3 MHz



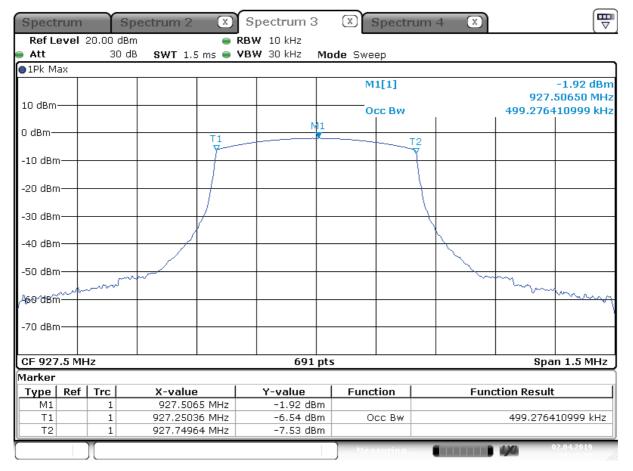
Date: 2.APR.2019 16:38:17





Date: 2.APR.2019 16:21:49





Date: 2.APR.2019 16:15:20

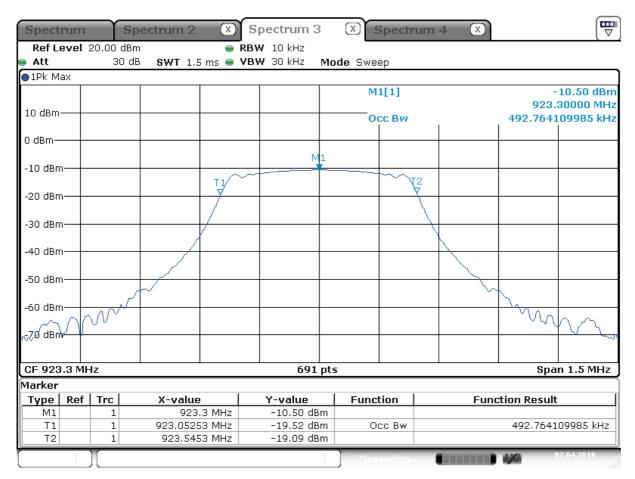


Module 3

**RF OUTPUT 1** 

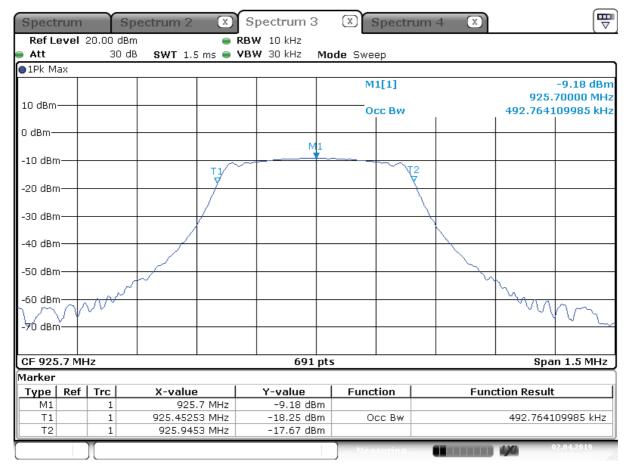
SPREAD FACTOR 7

Frequency 923.3 MHz



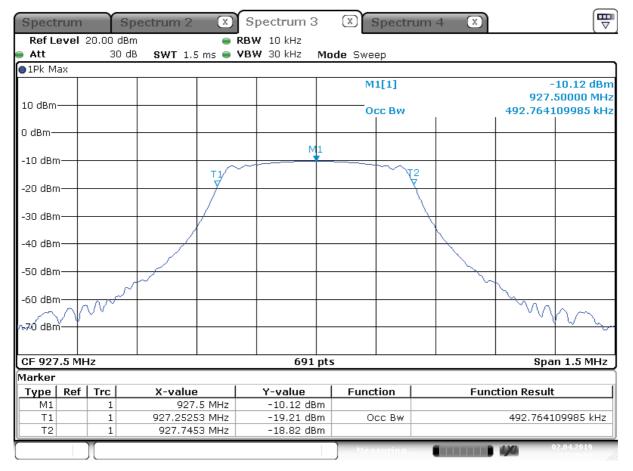
Date: 2.APR.2019 14:03:20





Date: 2.APR.2019 13:58:37



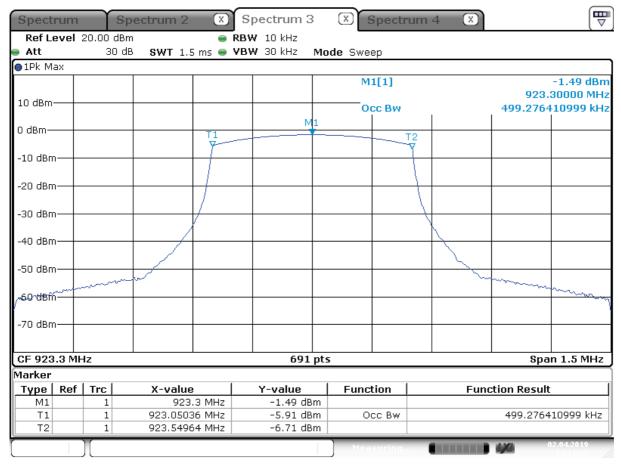


Date: 2.APR.2019 12:20:02



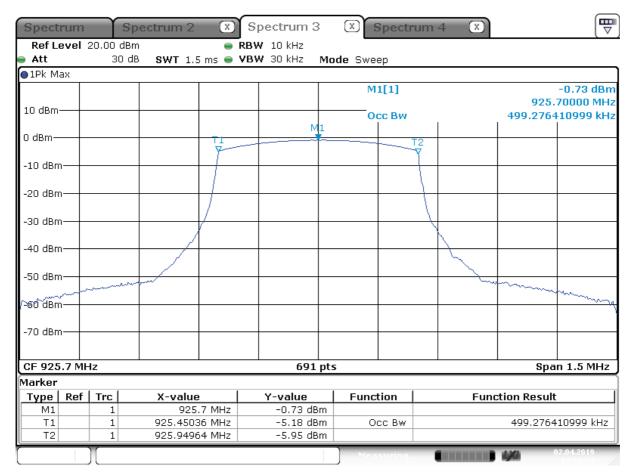
## SPREAD FACTOR 12

#### Frequency 923.3 MHz



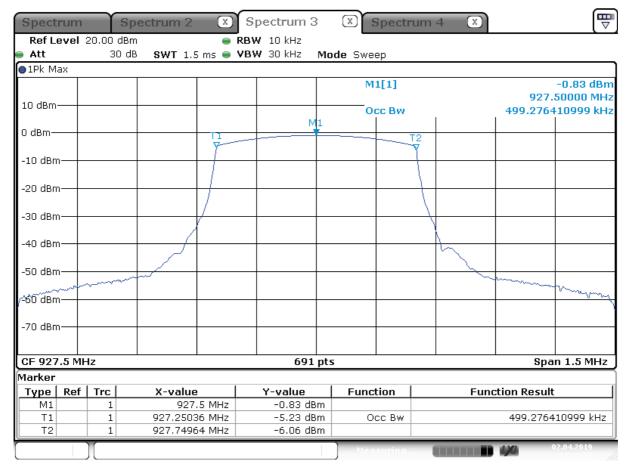
Date: 2.APR.2019 14:13:32





Date: 2.APR.2019 13:56:35





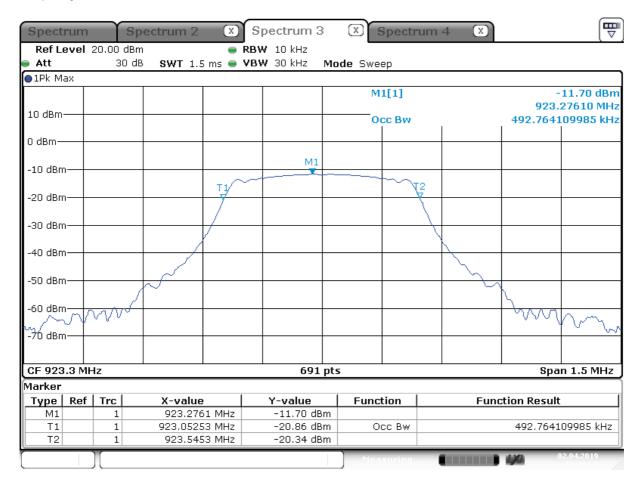
Date: 2.APR.2019 12:22:17



## RF OUTPUT 2

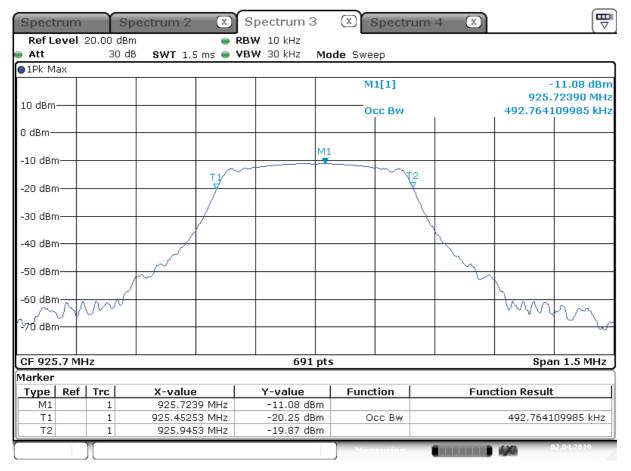
#### SPREAD FACTOR 7

Frequency 923.3 MHz



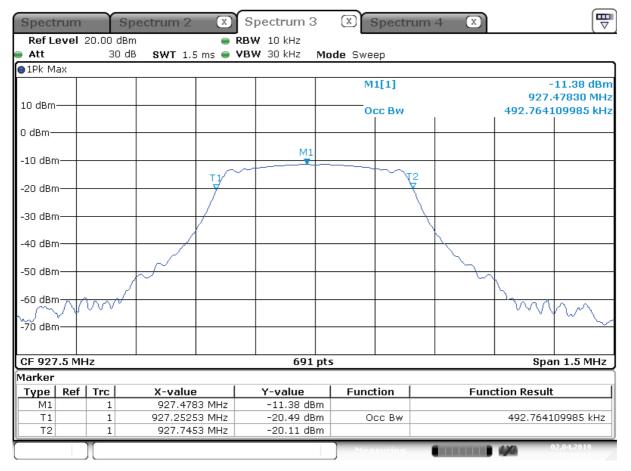
Date: 2.APR.2019 15:41:21





Date: 2.APR.2019 15:59:56



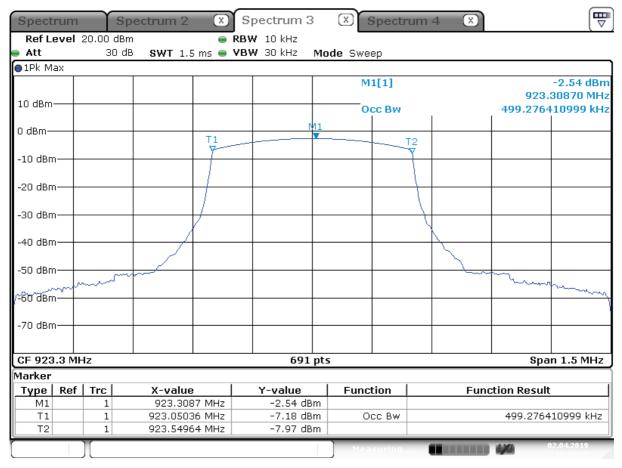


Date: 2.APR.2019 16:09:12



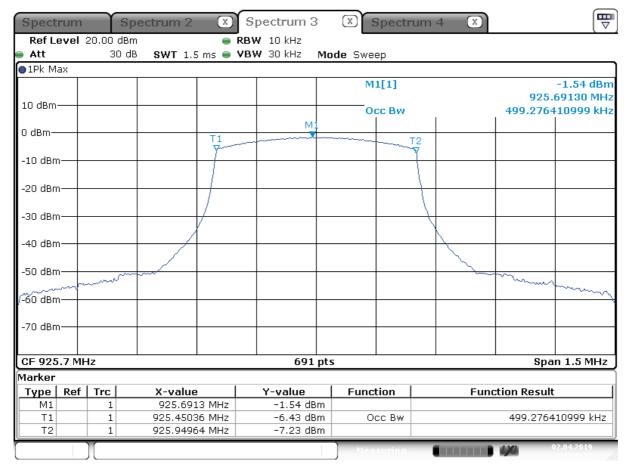
## SPREAD FACTOR 12

#### Frequency 923.3 MHz



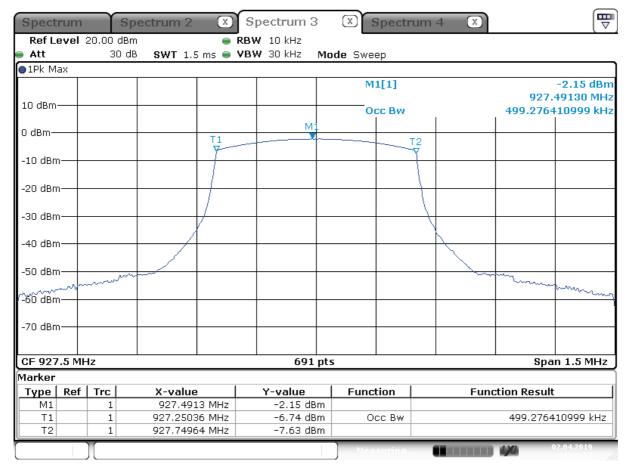
Date: 2.APR.2019 15:38:59





Date: 2.APR.2019 16:00:29





Date: 2.APR.2019 16:06:52

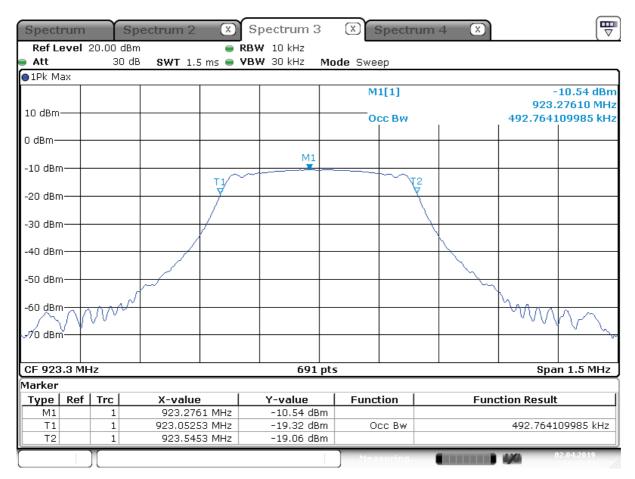


Module 4

**RF OUTPUT 1** 

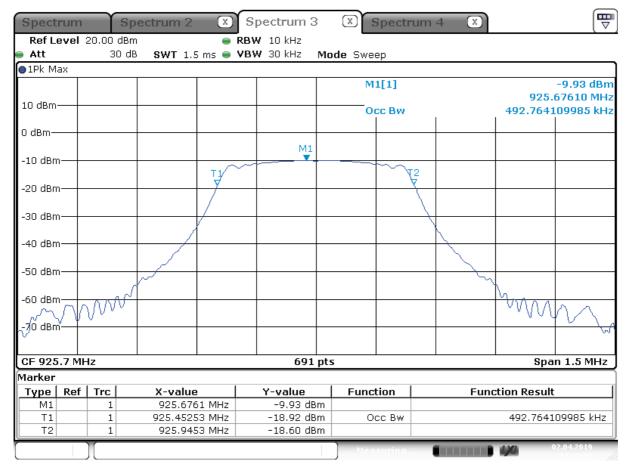
SPREAD FACTOR 7

Frequency 923.3 MHz



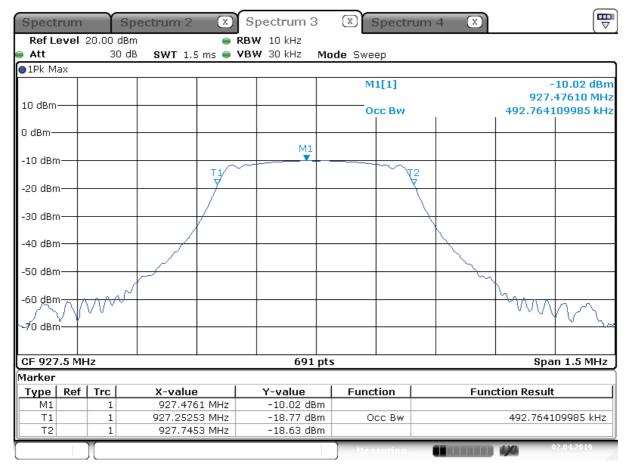
Date: 2.APR.2019 14:22:12





Date: 2.APR.2019 14:31:31



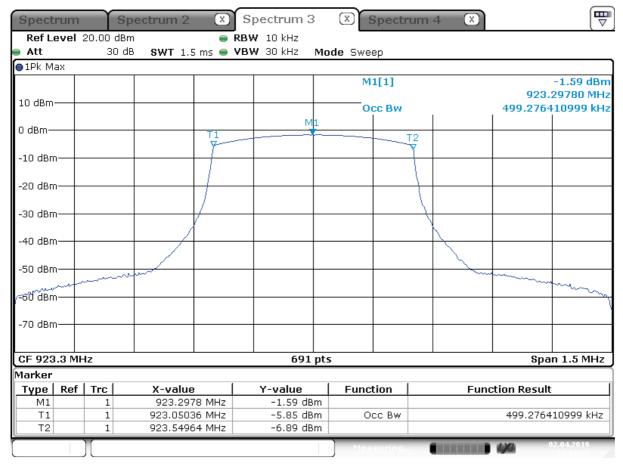


Date: 2.APR.2019 14:42:27



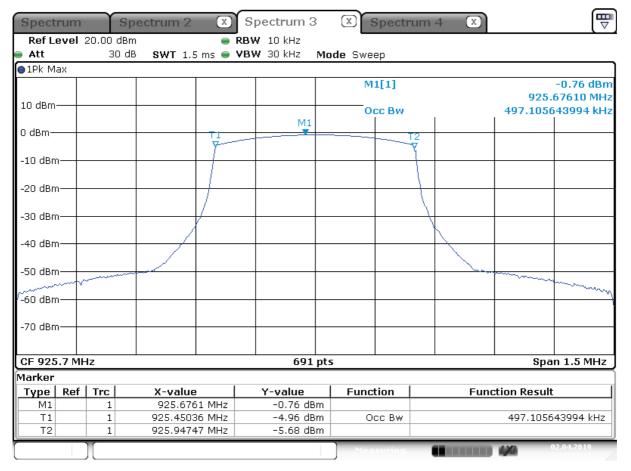
## SPREAD FACTOR 12

#### Frequency 923.3 MHz



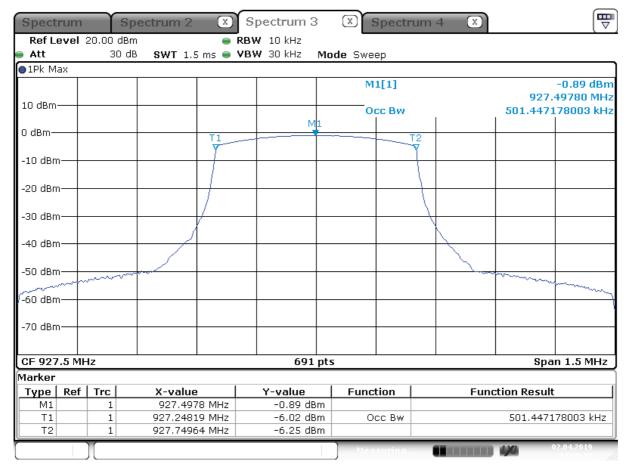
Date: 2.APR.2019 14:19:55





Date: 2.APR.2019 14:32:33





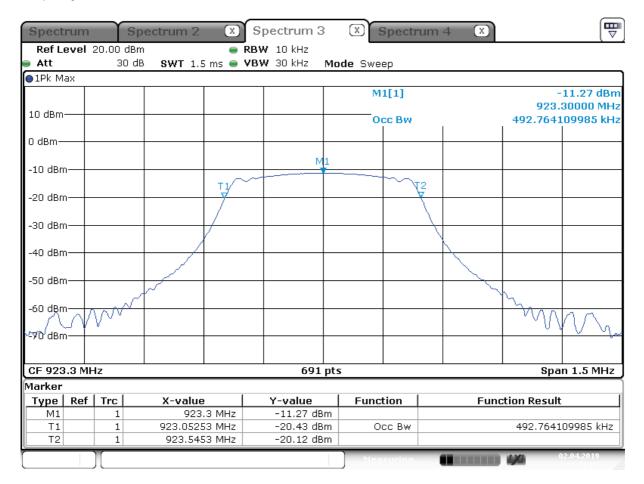
Date: 2.APR.2019 14:40:19



RF OUTPUT 2

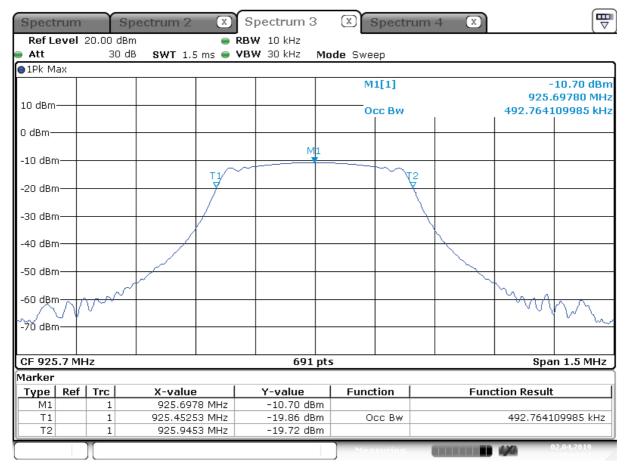
#### SPREAD FACTOR 7

Frequency 923.3 MHz



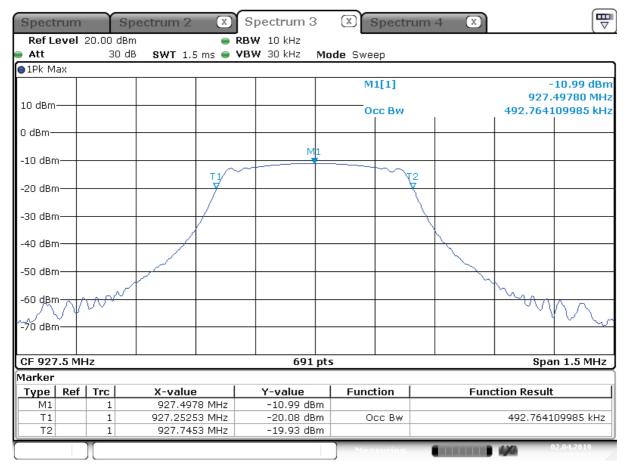
Date: 2.APR.2019 15:11:01





Date: 2.APR.2019 15:04:53



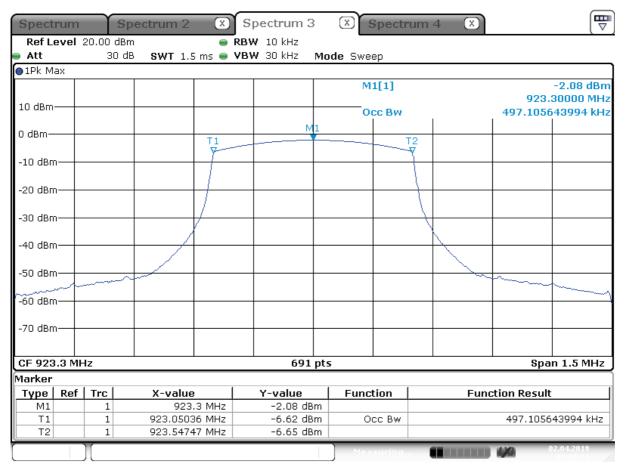


Date: 2.APR.2019 14:54:58



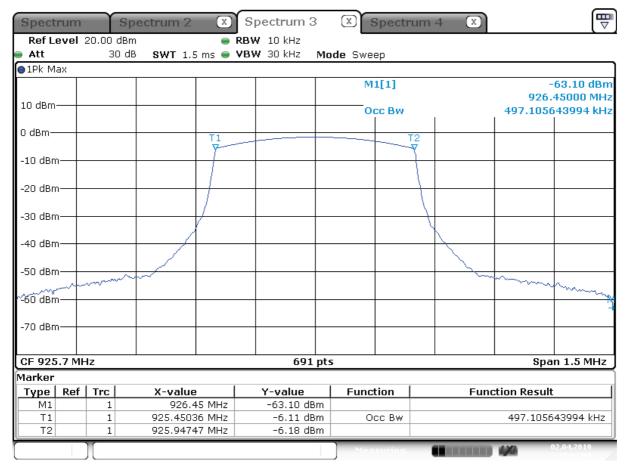
## SPREAD FACTOR 12

#### Frequency 923.3 MHz



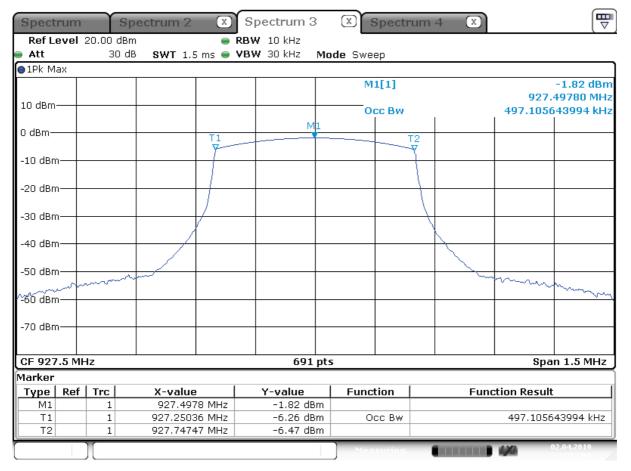
Date: 2.APR.2019 15:18:41





Date: 2.APR.2019 15:04:00





Date: 2.APR.2019 14:57:06



# APPENDIX 6: Band edge

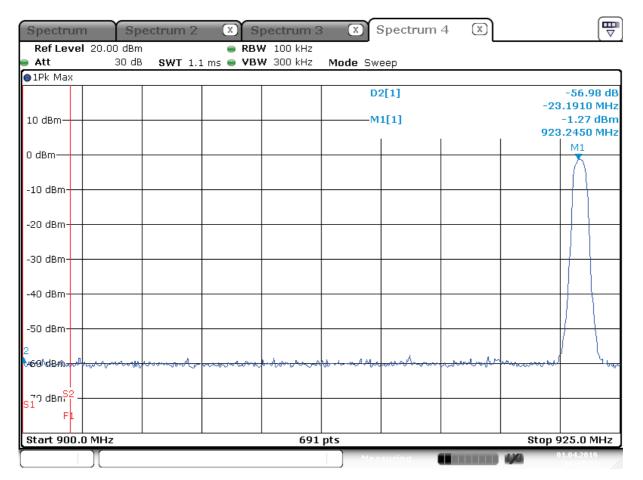
All measurement are realized with 30dBm

Module 1

RF OUTPUT 1

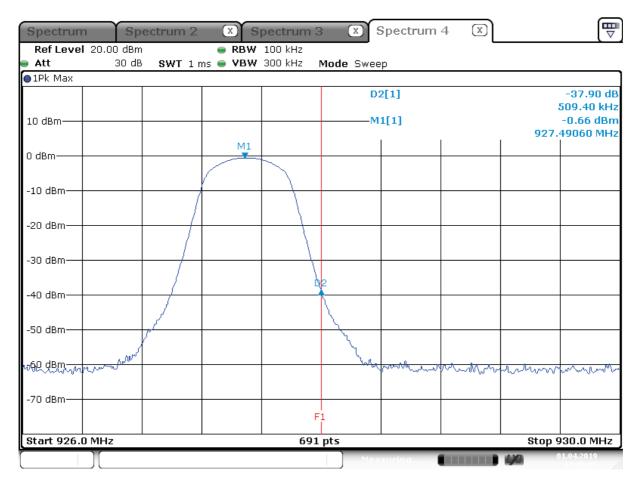
SPREAD FACTOR 7

Frequency 923.3 MHz



Date: 1.APR.2019 10:47:33

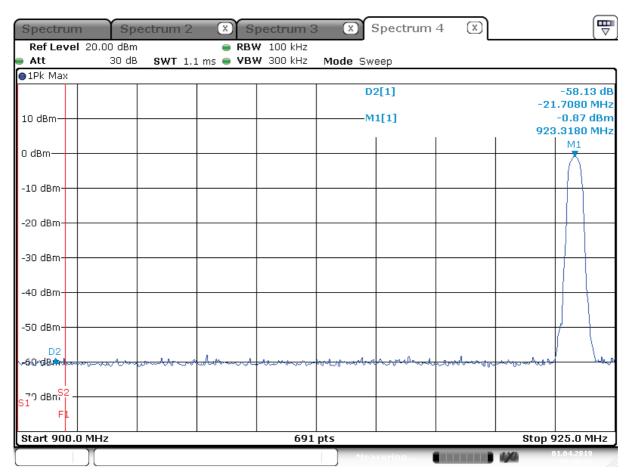




Date: 1.APR.2019 11:16:05

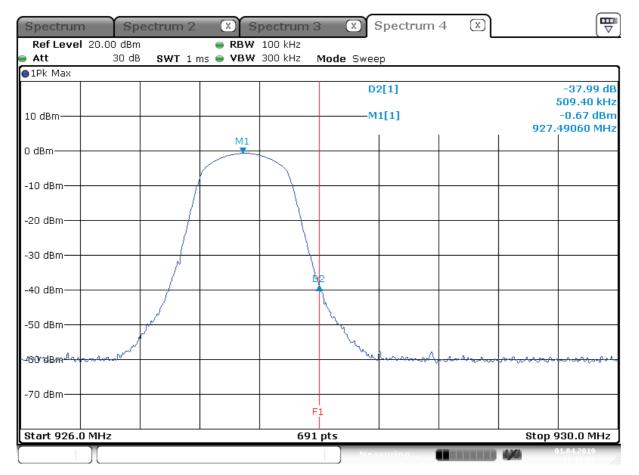


# Frequency 923.3 MHz



Date: 1.APR.2019 10:49:20





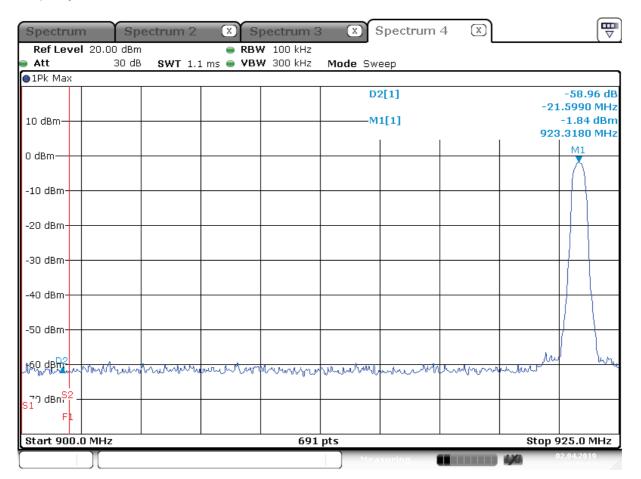
Date: 1.APR.2019 11:11:02



RF OUTPUT 2

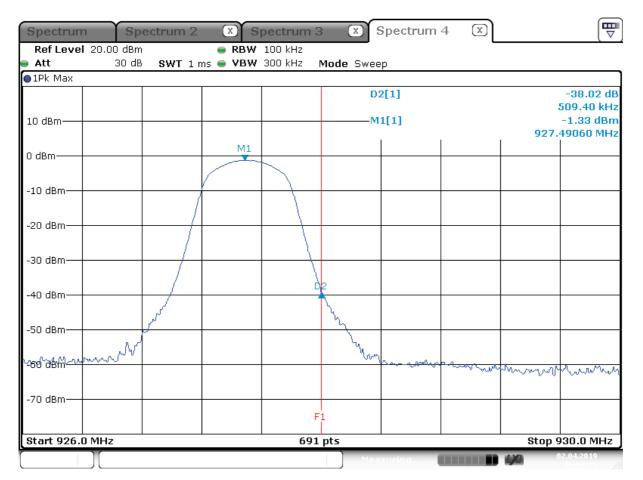
SPREAD FACTOR 7

Frequency 923.3 MHz



Date: 2.APR.2019 16:43:54

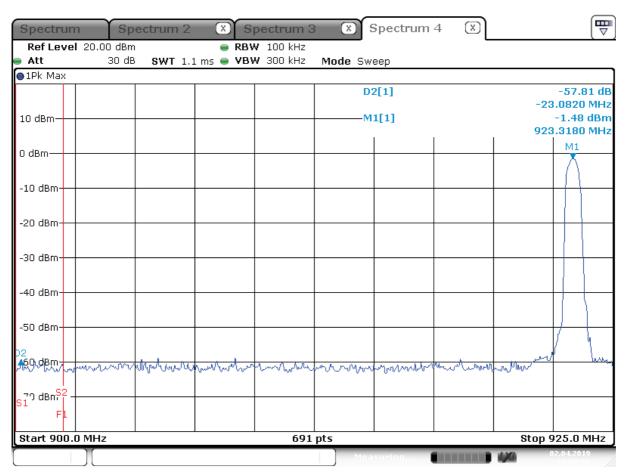




Date: 2.APR.2019 16:58:32

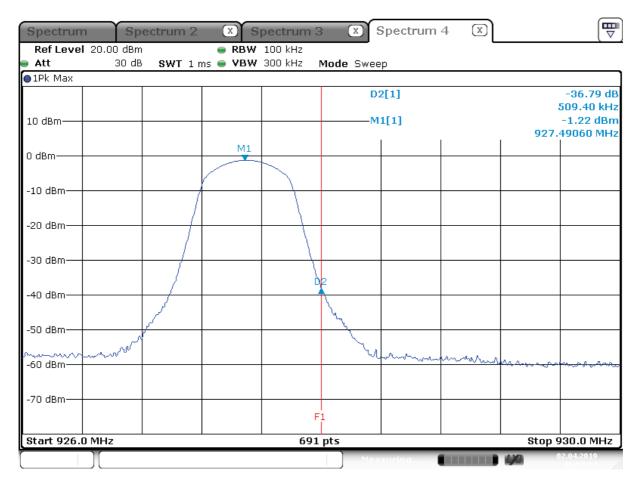


# Frequency 923.3 MHz



Date: 2.APR.2019 16:42:57





Date: 2.APR.2019 16:57:54

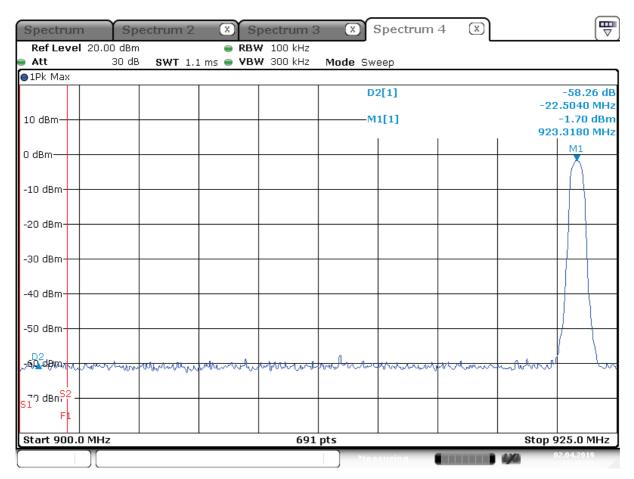


Module 2

RF OUTPUT 1

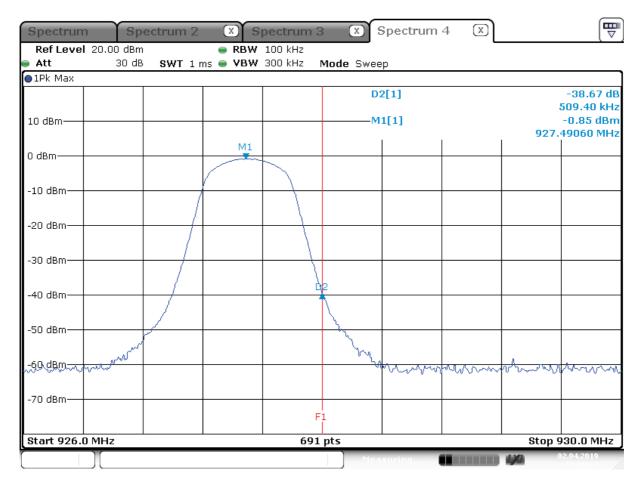
SPREAD FACTOR 7

Frequency 923.3 MHz



Date: 2.APR.2019 11:46:01

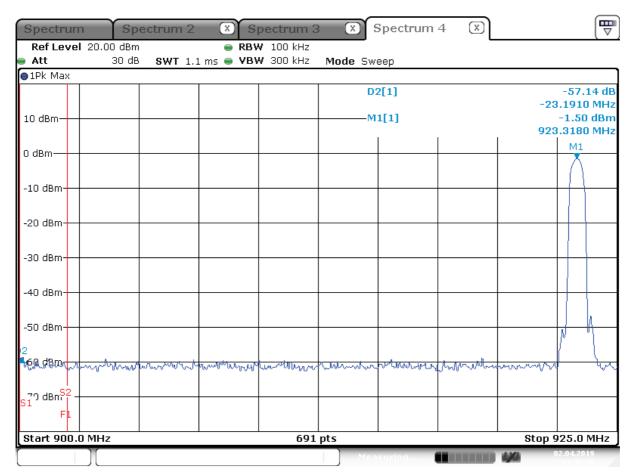




Date: 2.APR.2019 12:05:24

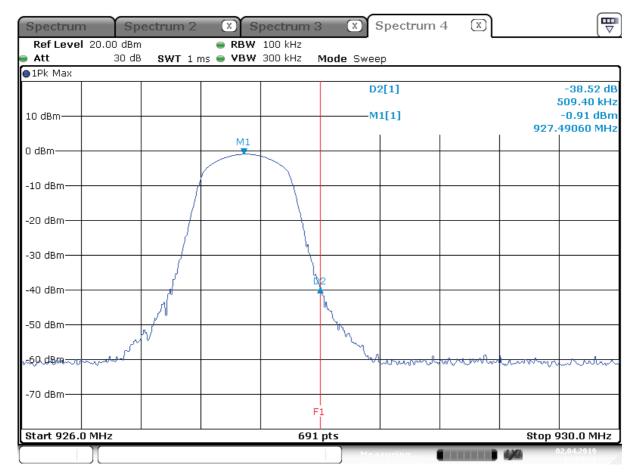


# Frequency 923.3 MHz



Date: 2.APR.2019 11:47:39





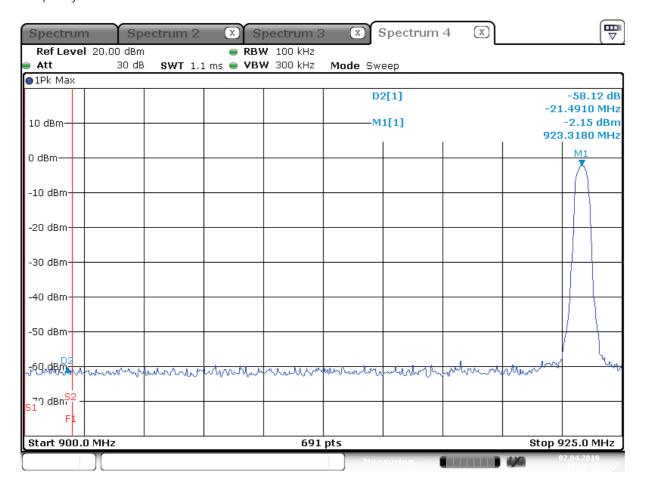
Date: 2.APR.2019 12:04:21



RF OUTPUT 2

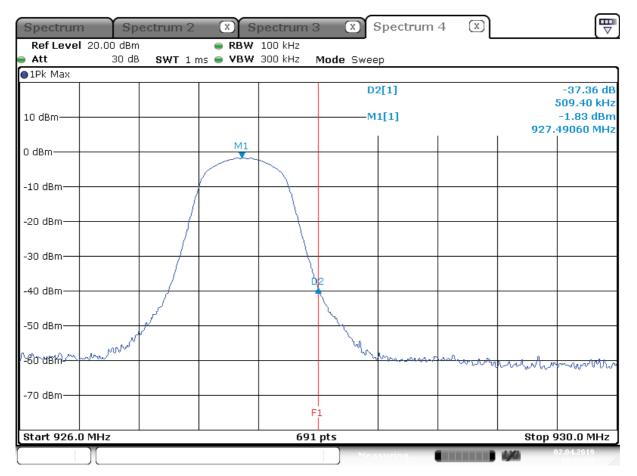
SPREAD FACTOR 7

Frequency 923.3 MHz



Date: 2.APR.2019 16:36:38

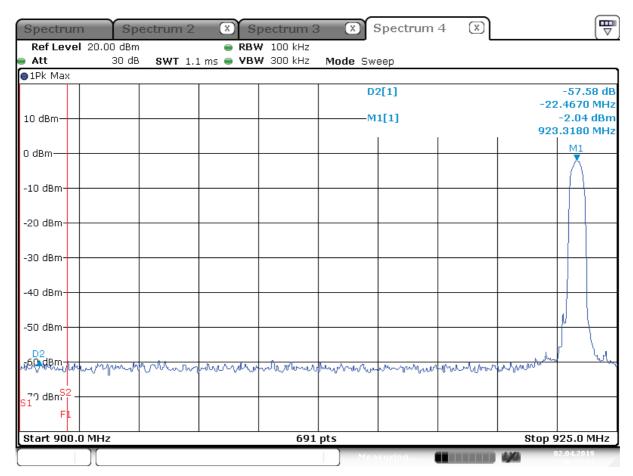




Date: 2.APR.2019 16:13:05

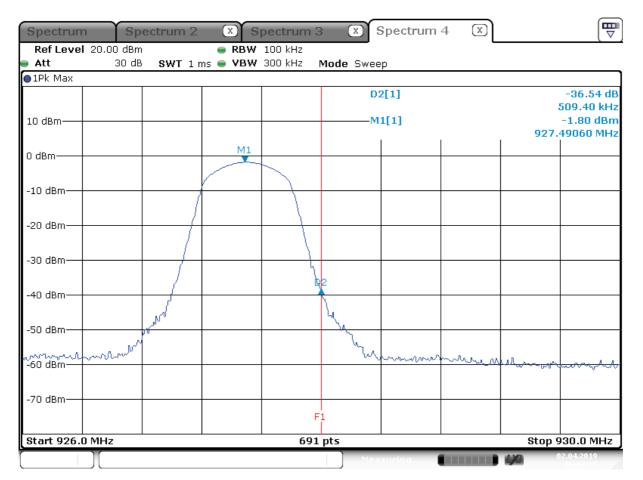


# Frequency 923.3 MHz



Date: 2.APR.2019 16:37:25





Date: 2.APR.2019 16:14:57

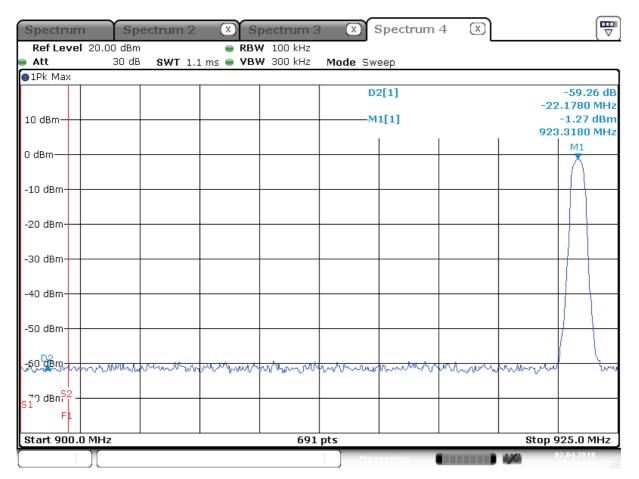


Module 3

**RF OUTPUT 1** 

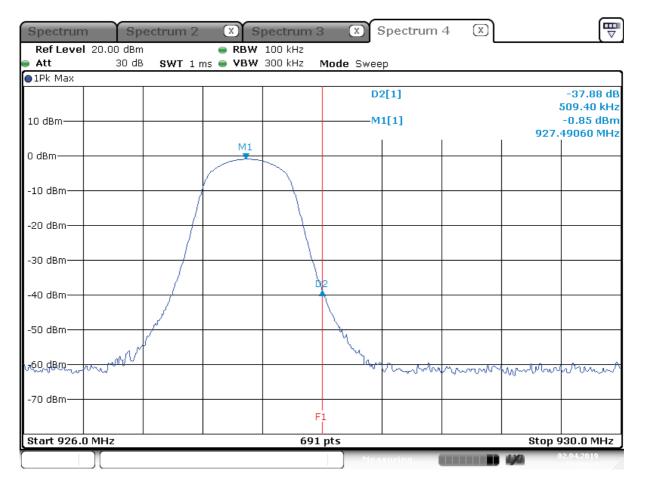
SPREAD FACTOR 7

Frequency 923.3 MHz



Date: 2.APR.2019 14:03:46

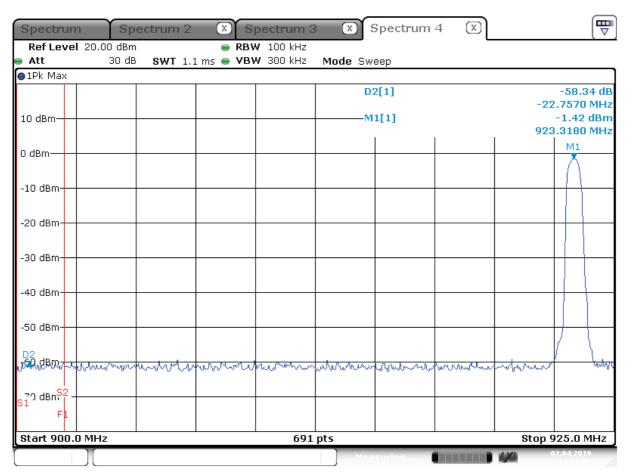




Date: 2.APR.2019 12:20:24

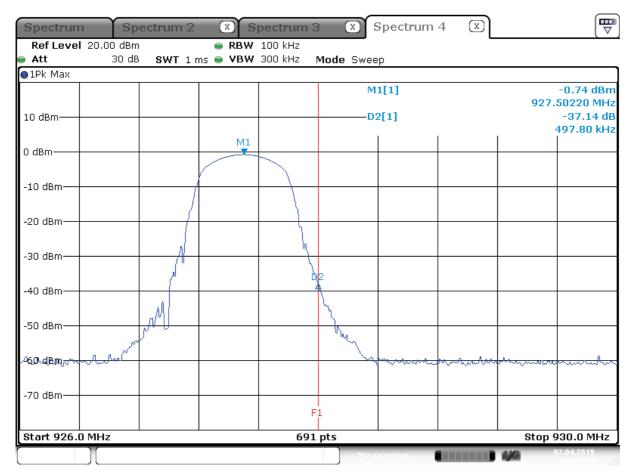


### Frequency 923.3 MHz



Date: 2.APR.2019 14:13:06





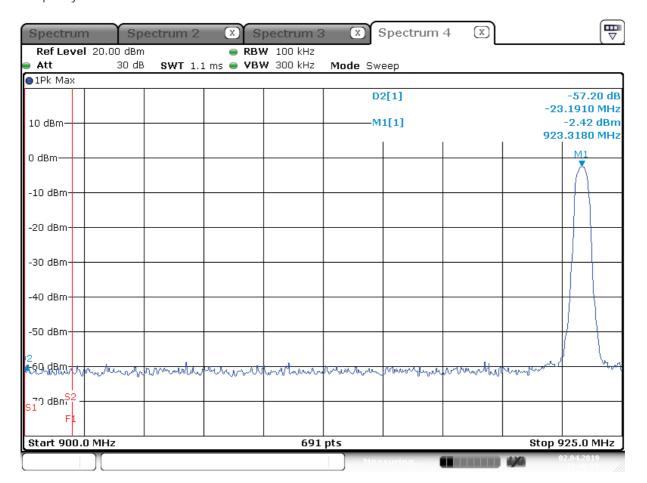
Date: 2.APR.2019 12:21:56



RF OUTPUT 2

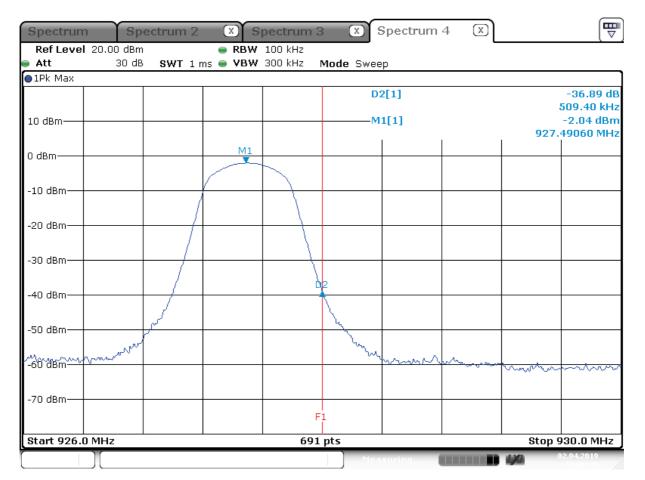
SPREAD FACTOR 7

Frequency 923.3 MHz



Date: 2.APR.2019 15:40:59

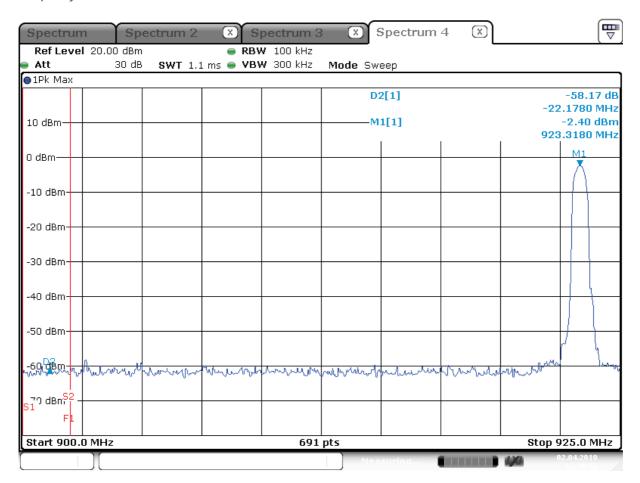




Date: 2.APR.2019 16:08:40

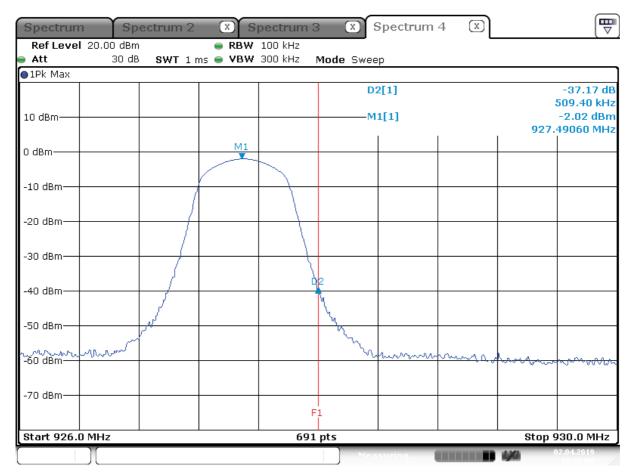


# Frequency 923.3 MHz



Date: 2.APR.2019 15:39:16





Date: 2.APR.2019 16:08:00

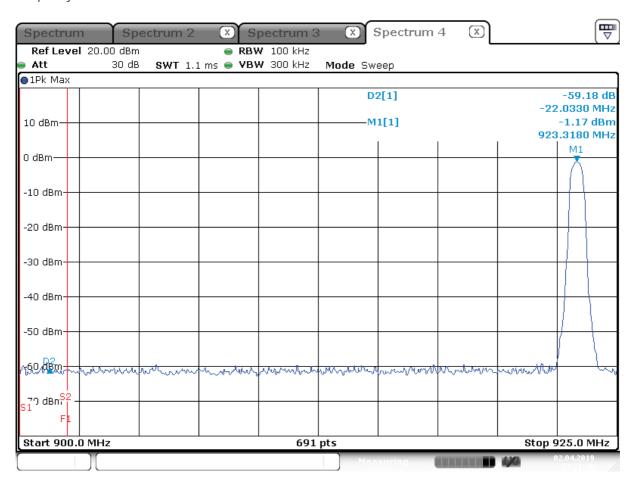


Module 4

**RF OUTPUT 1** 

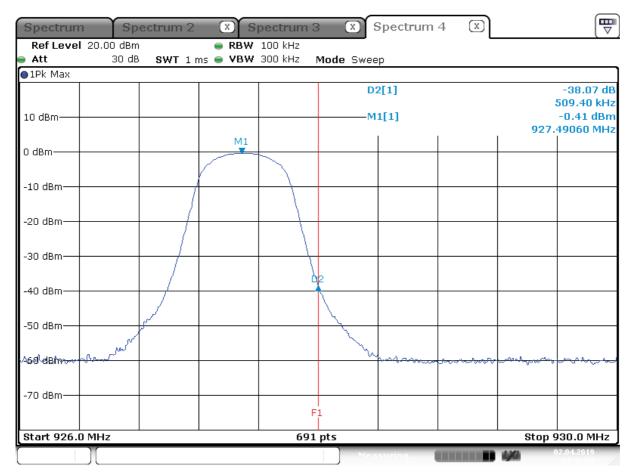
SPREAD FACTOR 7

Frequency 923.3 MHz



Date: 2.APR.2019 14:21:47

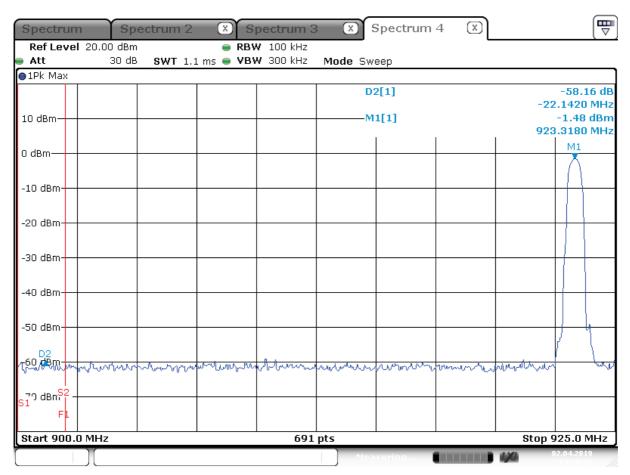




Date: 2.APR.2019 14:42:05

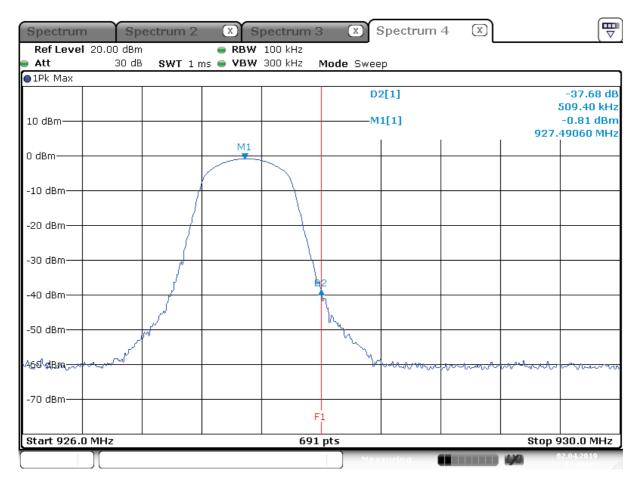


# Frequency 923.3 MHz



Date: 2.APR.2019 14:20:22





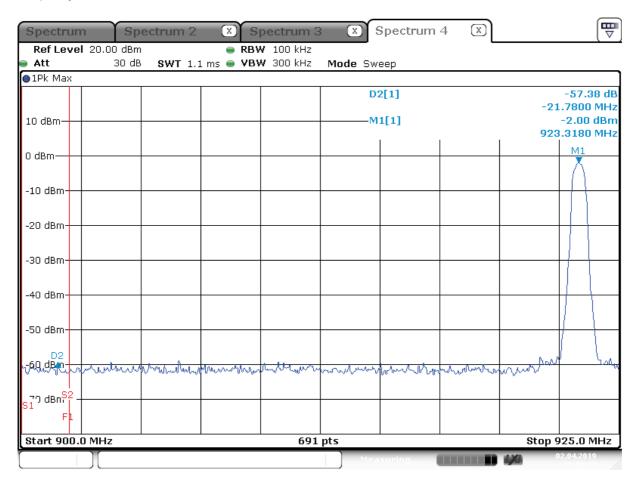
Date: 2.APR.2019 14:41:13



RF OUTPUT 2

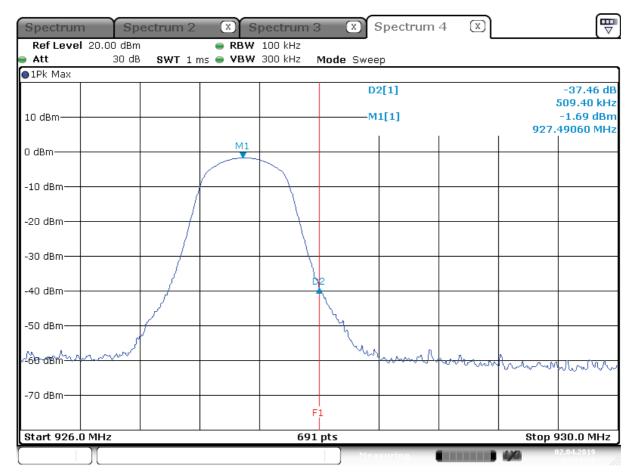
SPREAD FACTOR 7

Frequency 923.3 MHz



Date: 2.APR.2019 15:11:28

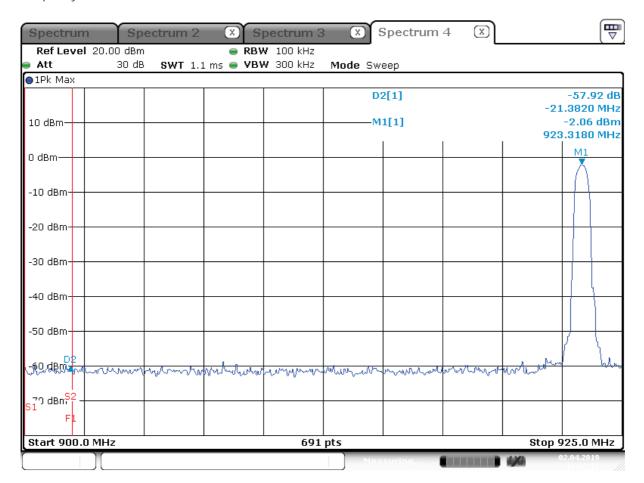




Date: 2.APR.2019 14:55:25

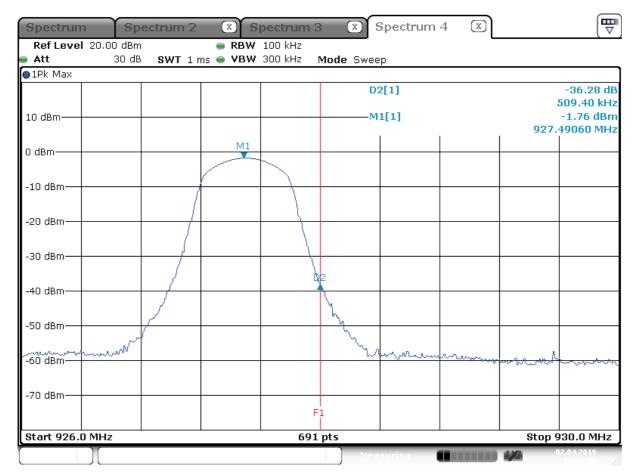


# Frequency 923.3 MHz



Date: 2.APR.2019 15:12:12





Date: 2.APR.2019 14:56:46



# APPENDIX 7: Spectral density

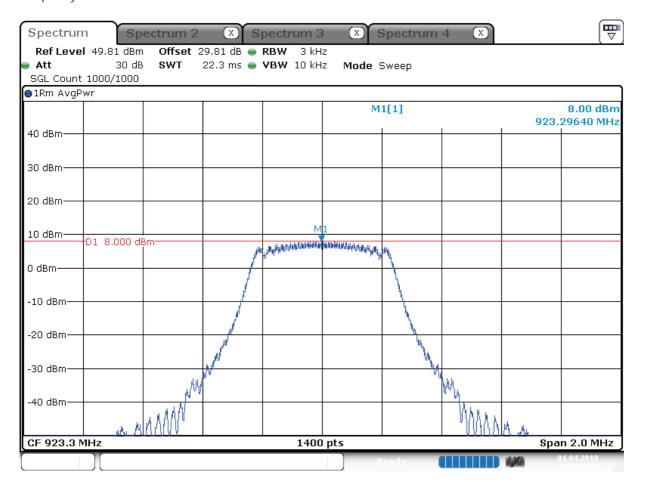
Measure realized with 30dBm

Module 1

RF OUTPUT 1

SPREAD FACTOR 7

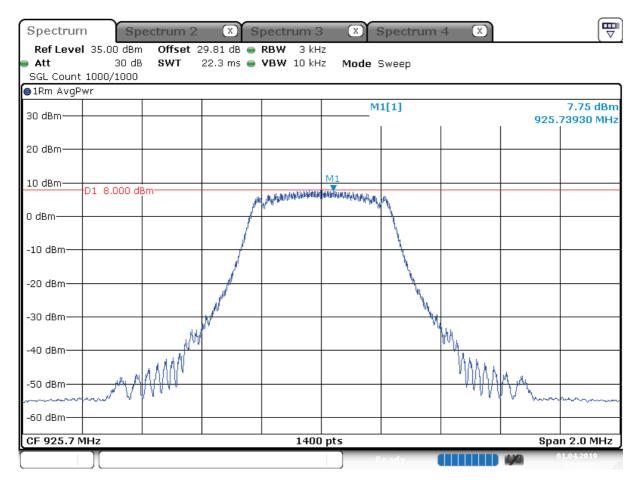
Frequency 923.3 MHz



Date: 1.APR.2019 10:25:15

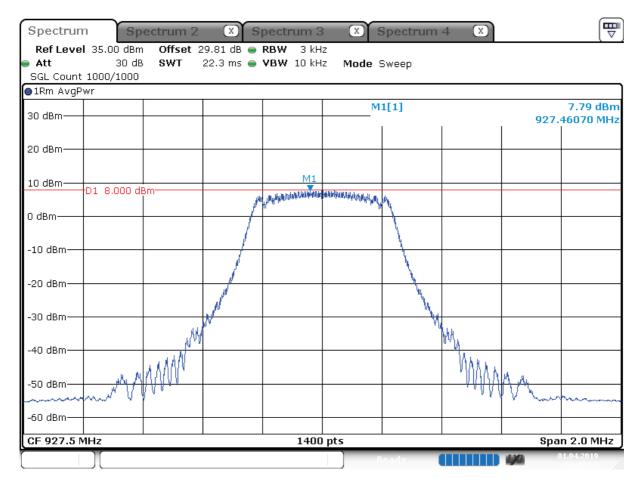


# Frequency 925.7 MHz



Date: 1.APR.2019 11:24:49

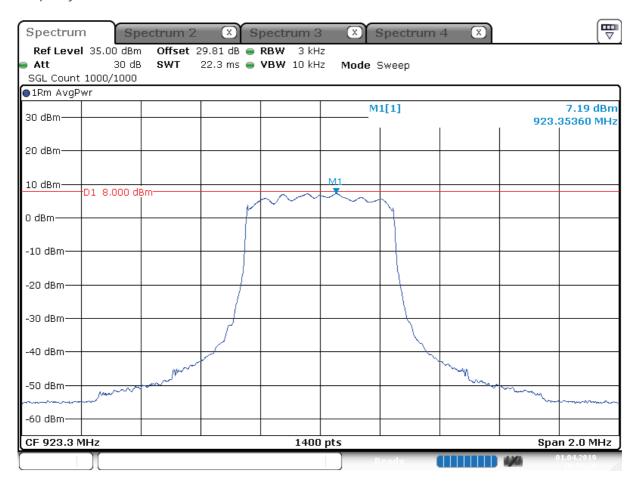




Date: 1.APR.2019 11:17:53



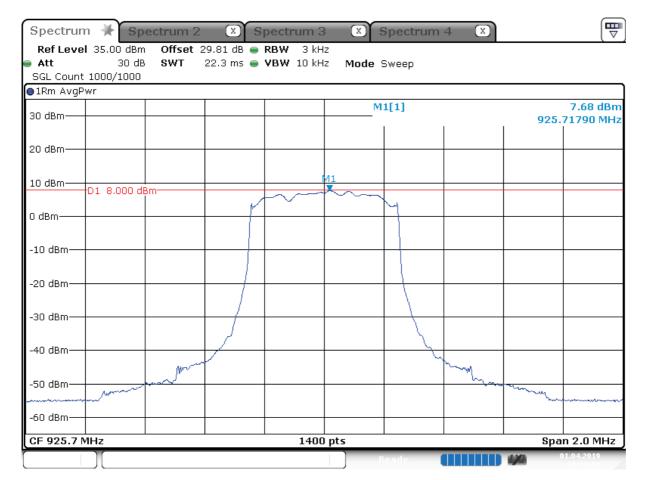
# Frequency 923.3 MHz



Date: 1.APR.2019 10:57:20

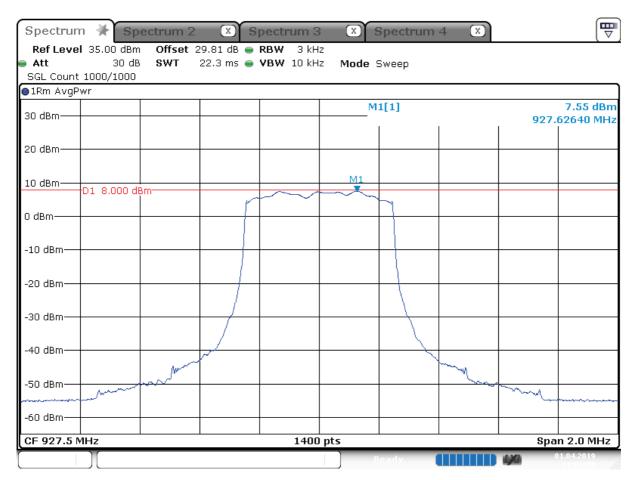


# Frequency 925.7 MHz



Date: 1.APR.2019 11:20:00





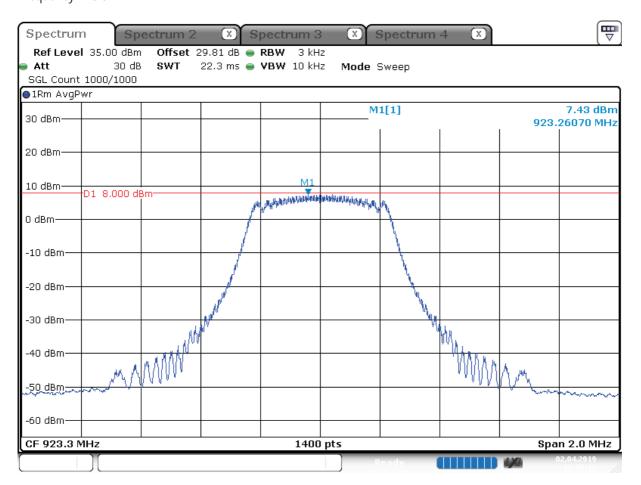
Date: 1.APR.2019 11:06:10



RF OUTPUT 2

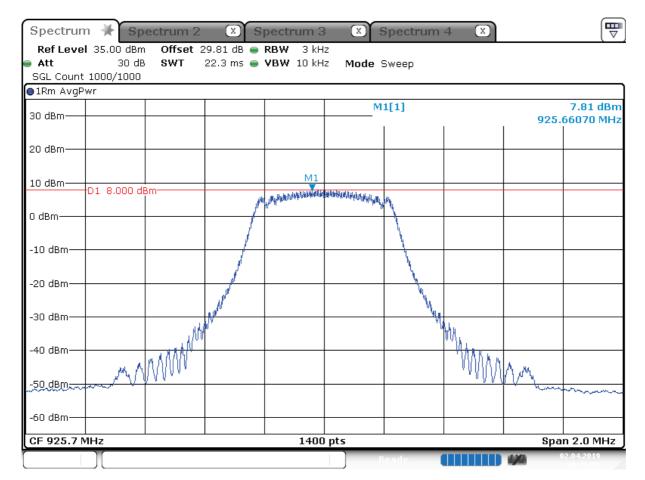
#### SPREAD FACTOR 7

Frequency 923.3 MHz



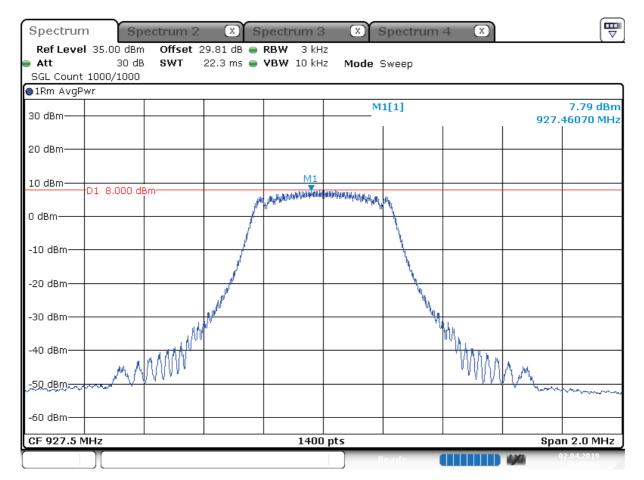
Date: 2.APR.2019 16:45:20





Date: 2.APR.2019 16:46:56



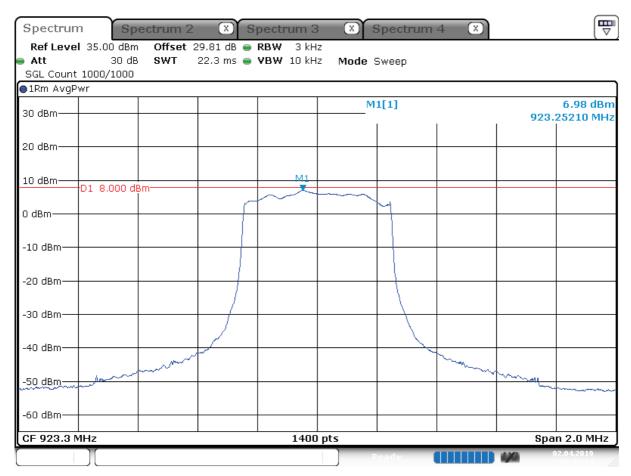


Date: 2.APR.2019 16:59:57



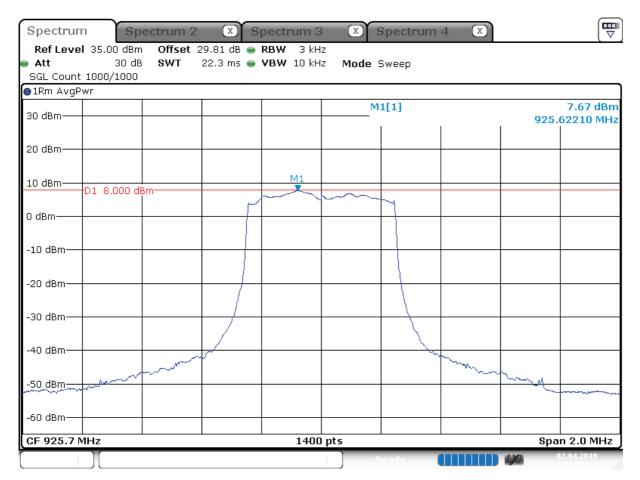
#### SPREAD FACTOR 12

# Frequency 923.3 MHz



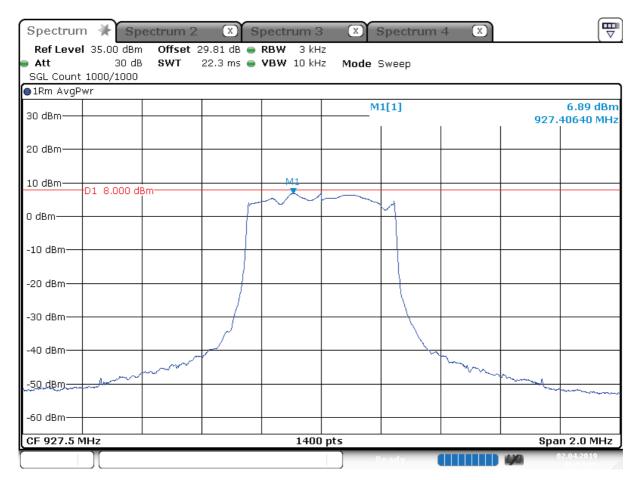
Date: 2.APR.2019 16:41:34





Date: 2.APR.2019 16:51:14





Date: 2.APR.2019 16:54:08

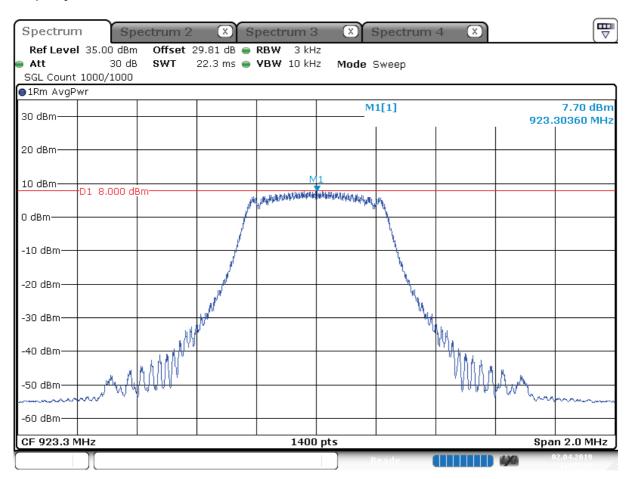


Module 2

**RF OUTPUT 1** 

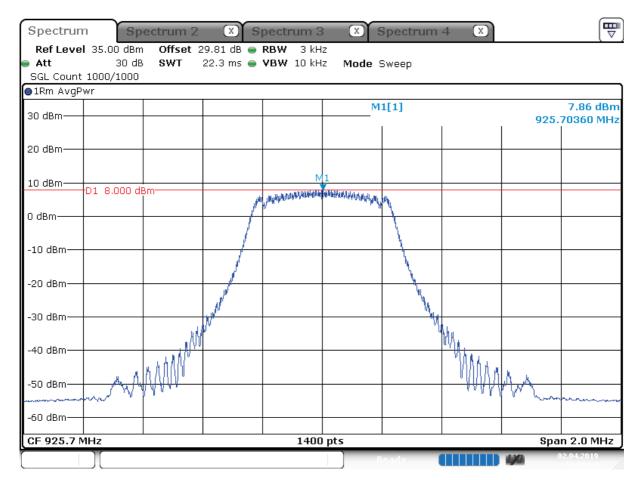
SPREAD FACTOR 7

Frequency 923.3 MHz



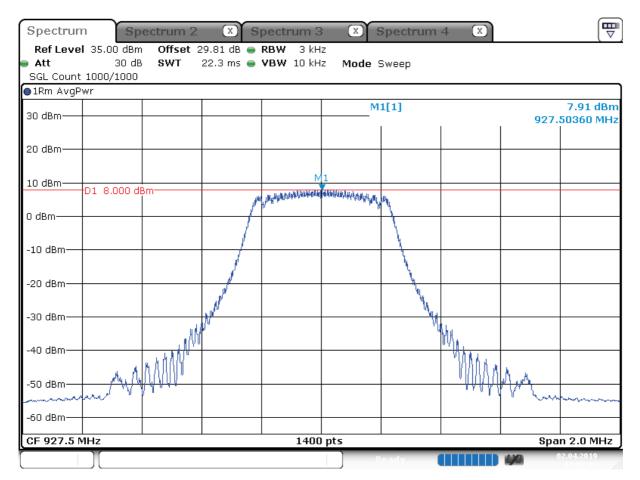
Date: 2.APR.2019 11:42:49





Date: 2.APR.2019 11:58:04



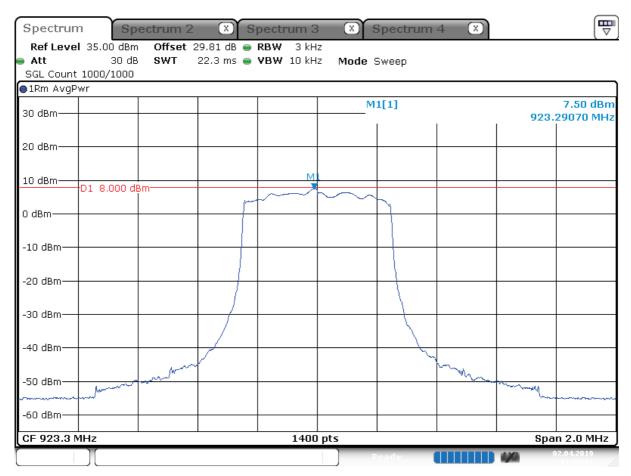


Date: 2.APR.2019 12:07:14



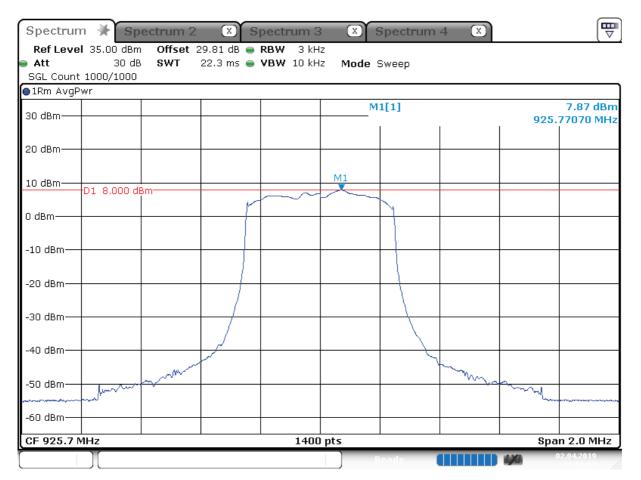
#### SPREAD FACTOR 12

# Frequency 923.3 MHz



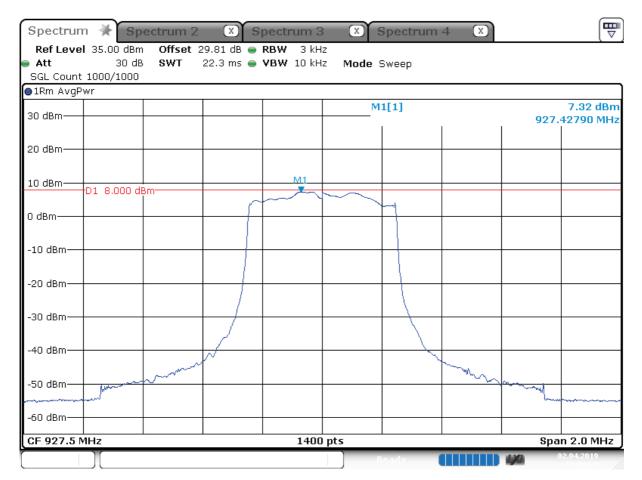
Date: 2.APR.2019 11:50:02





Date: 2.APR.2019 11:51:08





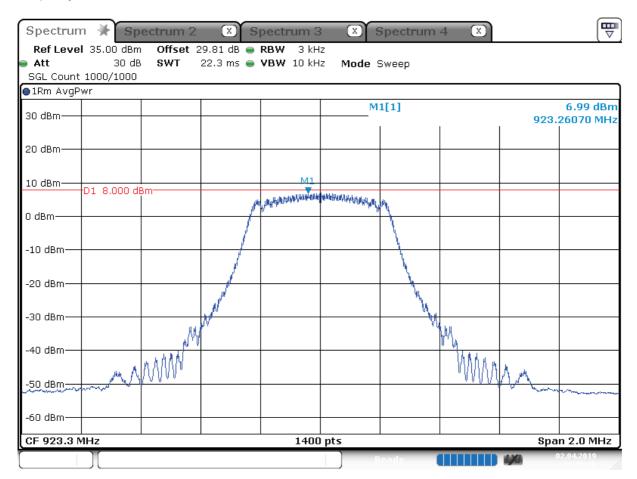
Date: 2.APR.2019 12:01:29



RF OUTPUT 2

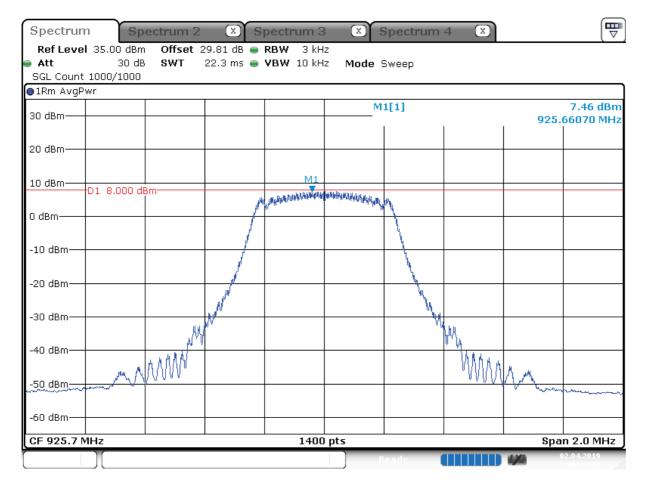
#### SPREAD FACTOR 7

Frequency 923.3 MHz



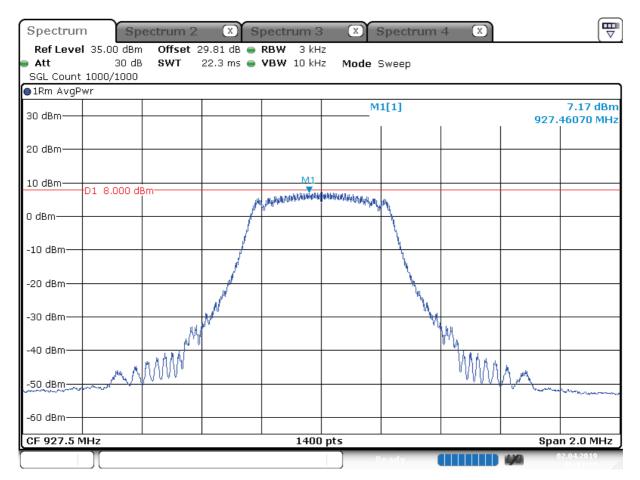
Date: 2.APR.2019 16:35:26





Date: 2.APR.2019 16:24:19



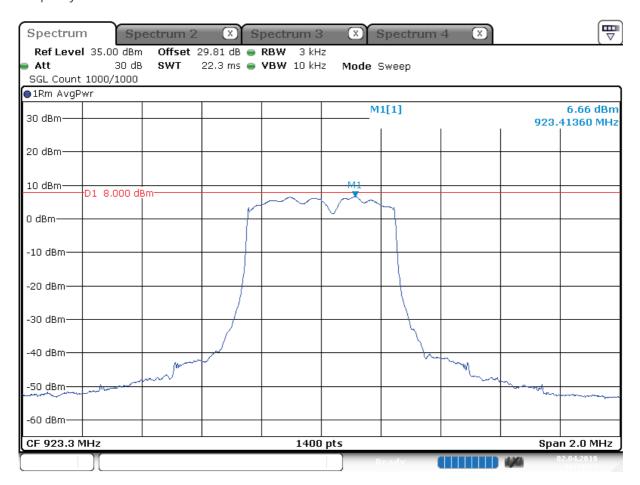


Date: 2.APR.2019 16:11:50



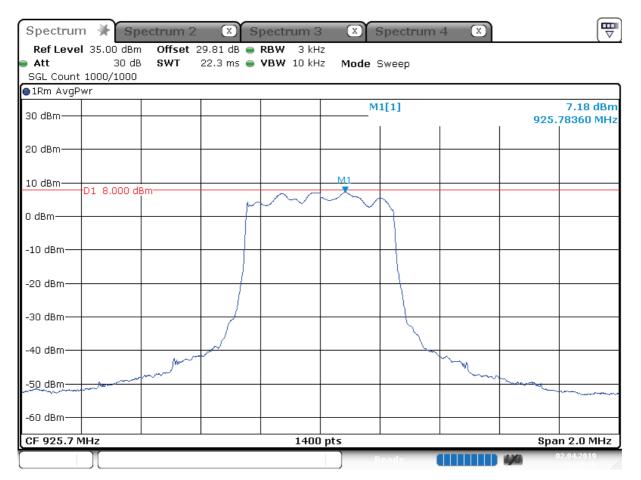
#### SPREAD FACTOR 12

# Frequency 923.3 MHz



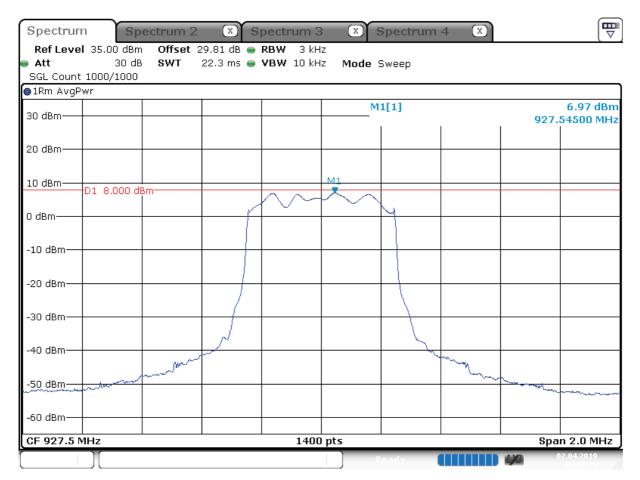
Date: 2.APR.2019 16:39:54





Date: 2.APR.2019 16:20:36





Date: 2.APR.2019 16:17:39

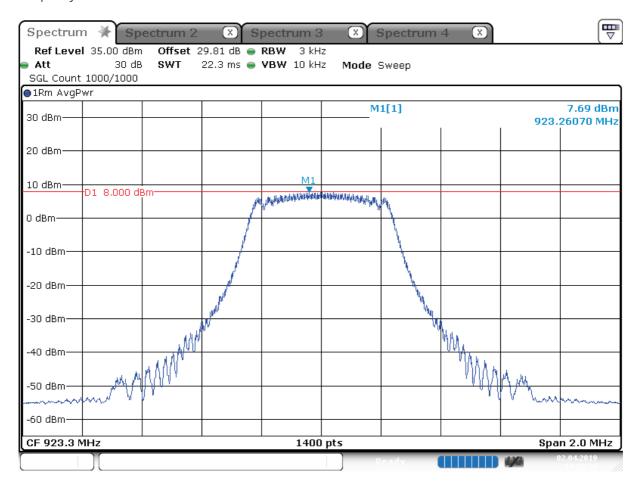


Module 3

**RF OUTPUT 1** 

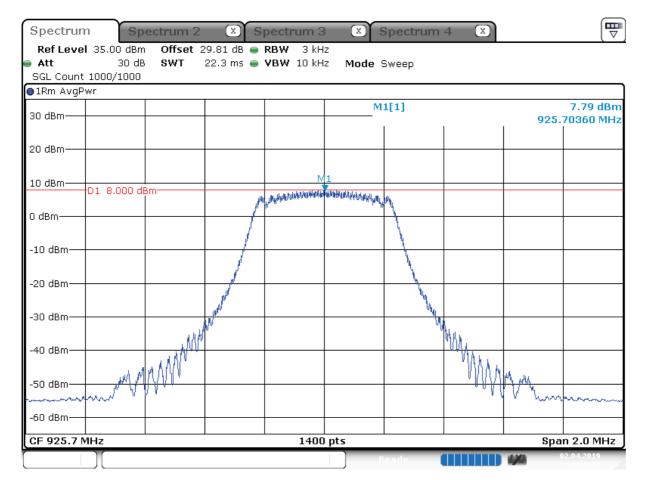
SPREAD FACTOR 7

Frequency 923.3 MHz



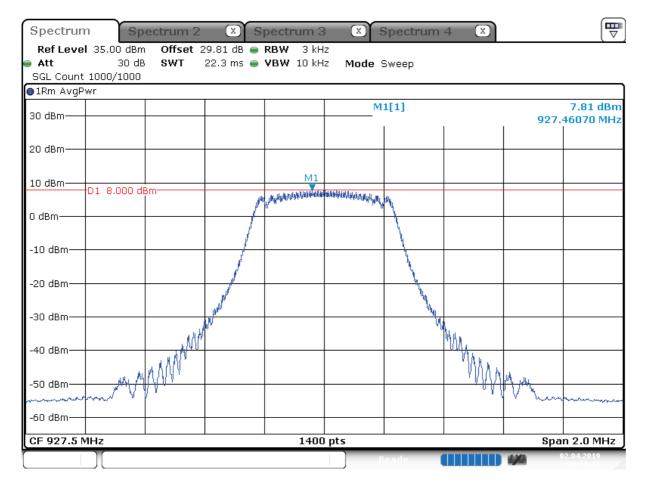
Date: 2.APR.2019 14:02:39





Date: 2.APR.2019 13:59:55



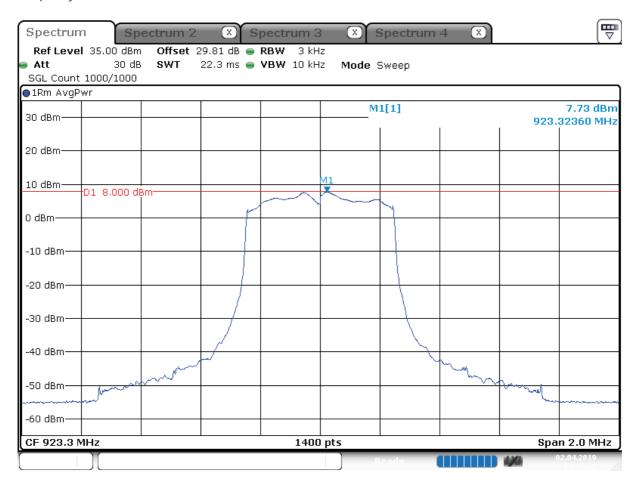


Date: 2.APR.2019 12:18:36



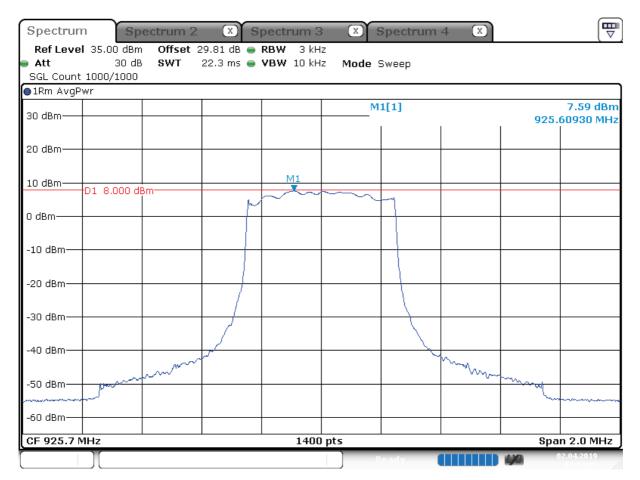
#### SPREAD FACTOR 12

# Frequency 923.3 MHz



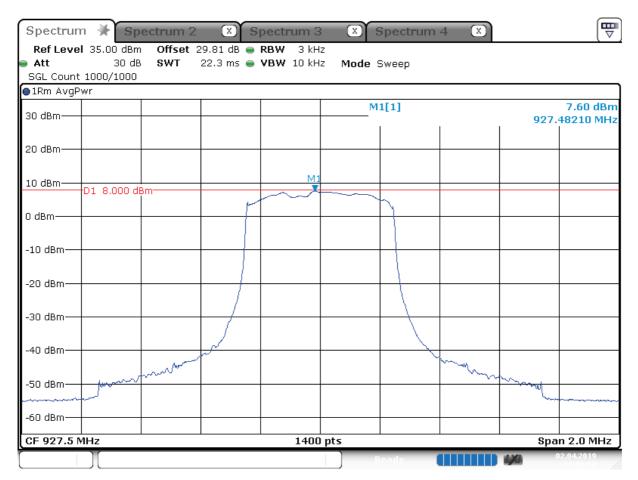
Date: 2.APR.2019 14:18:16





Date: 2.APR.2019 14:34:34





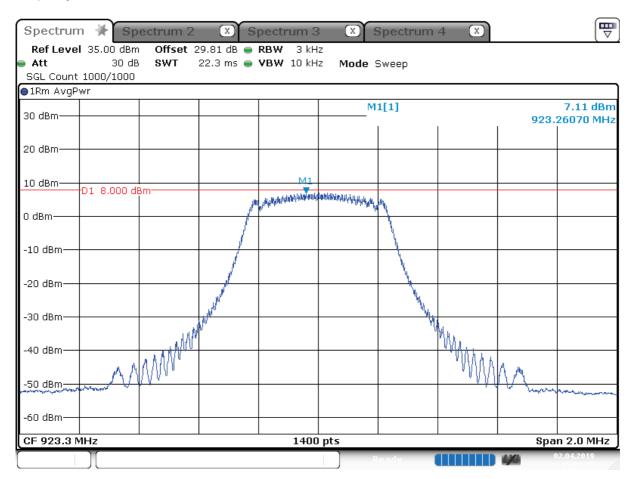
Date: 2.APR.2019 14:38:50



RF OUTPUT 2

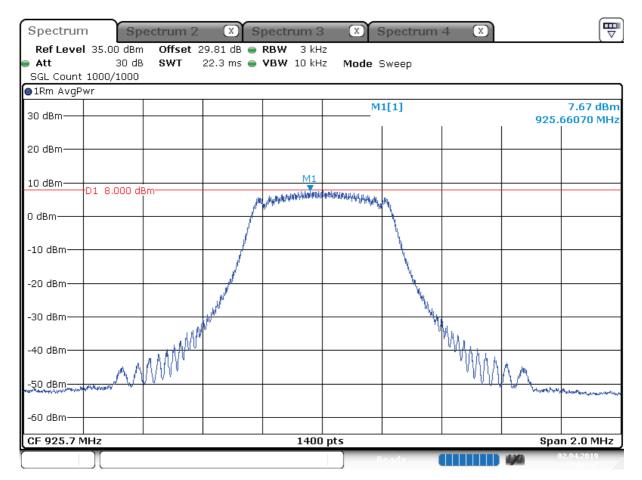
#### SPREAD FACTOR 7

Frequency 923.3 MHz



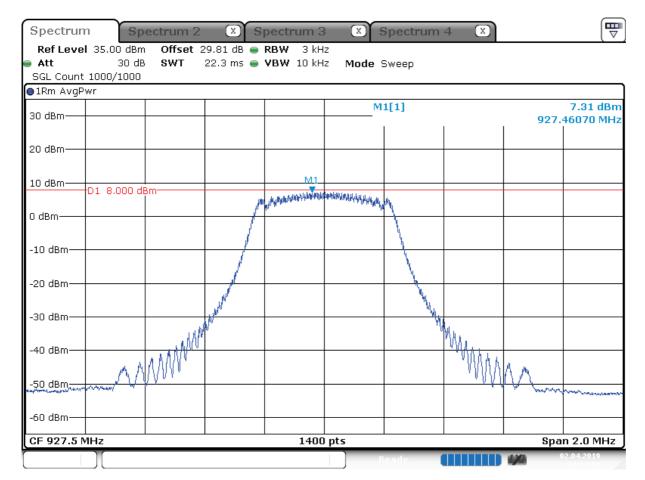
Date: 2.APR.2019 15:09:35





Date: 2.APR.2019 15:06:47



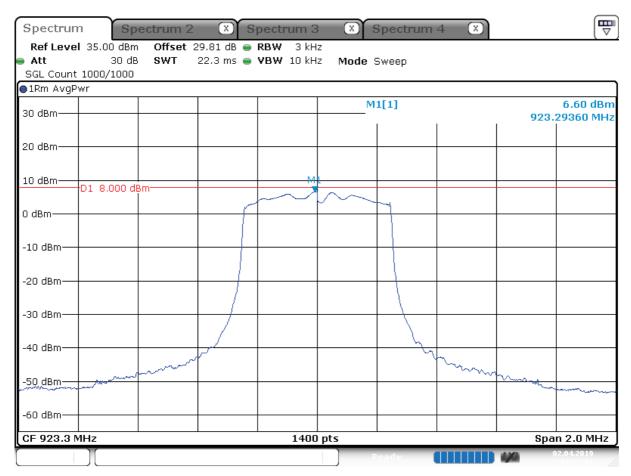


Date: 2.APR.2019 14:53:51



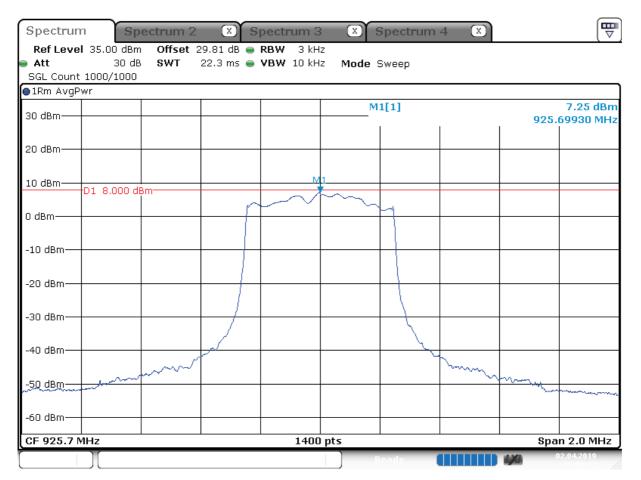
#### SPREAD FACTOR 12

# Frequency 923.3 MHz



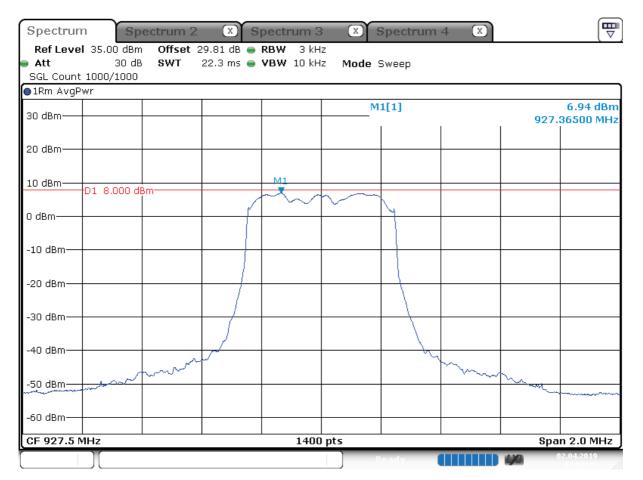
Date: 2.APR.2019 15:21:11





Date: 2.APR.2019 15:02:23





Date: 2.APR.2019 14:58:43

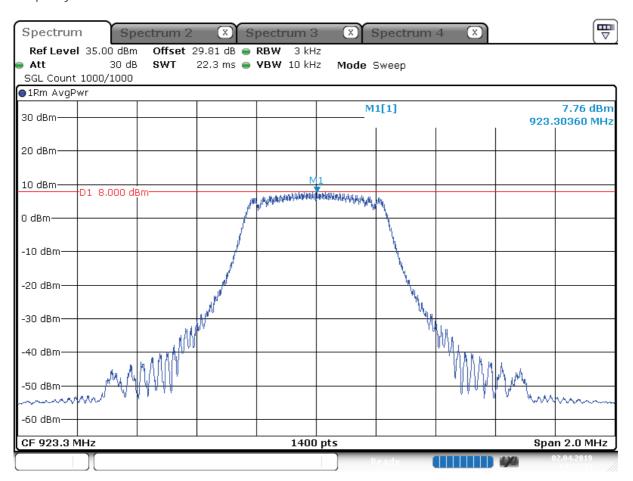


Module 4

**RF OUTPUT 1** 

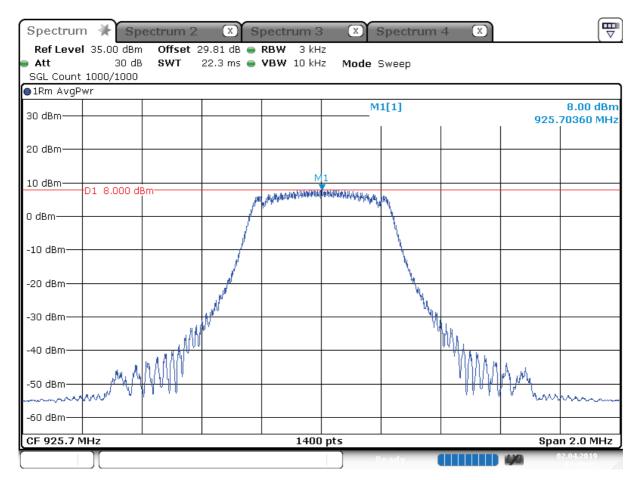
SPREAD FACTOR 7

Frequency 923.3 MHz



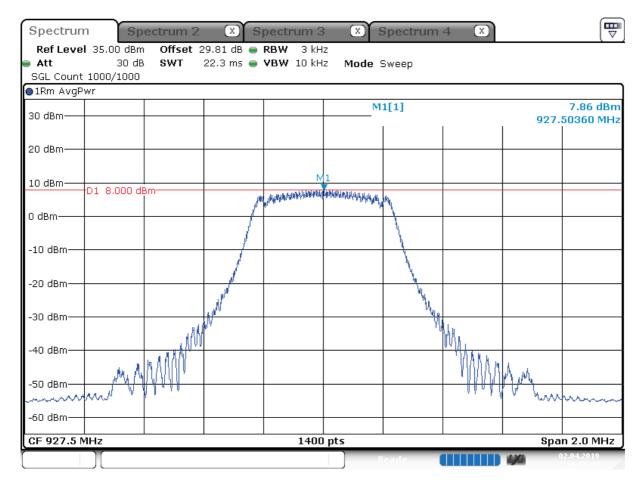
Date: 2.APR.2019 14:23:43





Date: 2.APR.2019 14:30:23



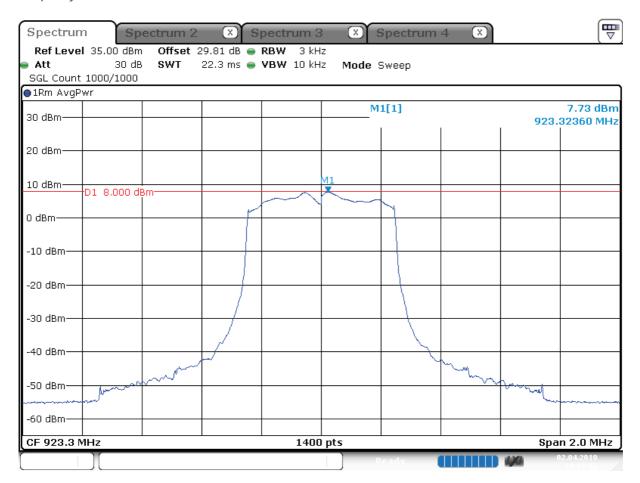


Date: 2.APR.2019 14:43:38



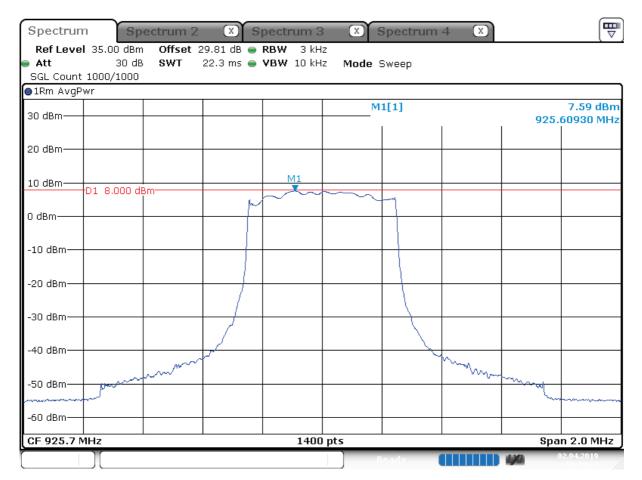
#### SPREAD FACTOR 12

# Frequency 923.3 MHz



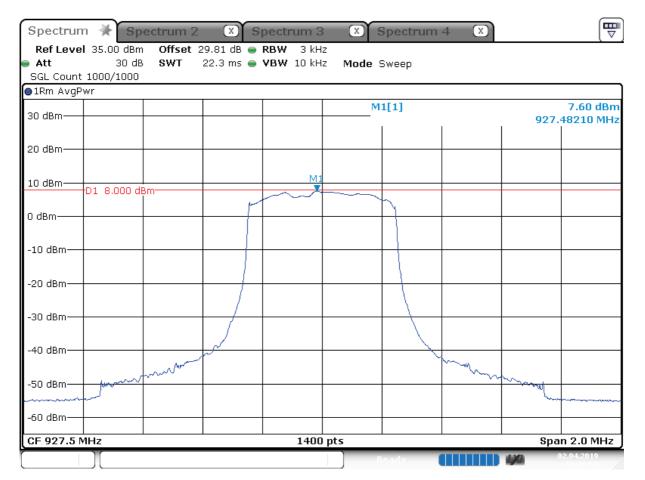
Date: 2.APR.2019 14:18:16





Date: 2.APR.2019 14:34:34





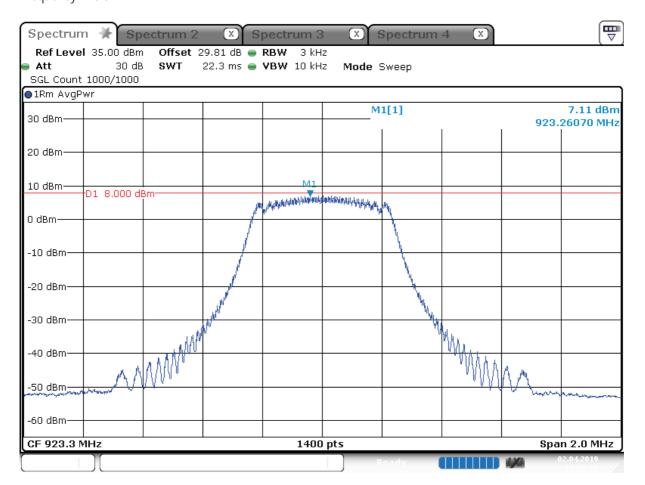
Date: 2.APR.2019 14:38:50



#### RF OUTPUT 2

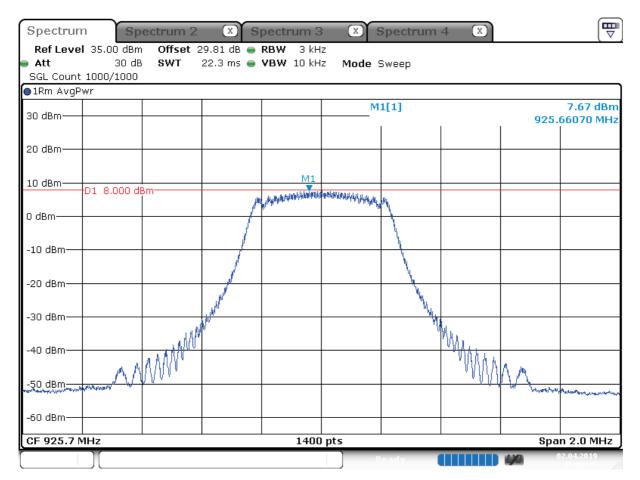
#### SPREAD FACTOR 7

Frequency 923.3 MHz



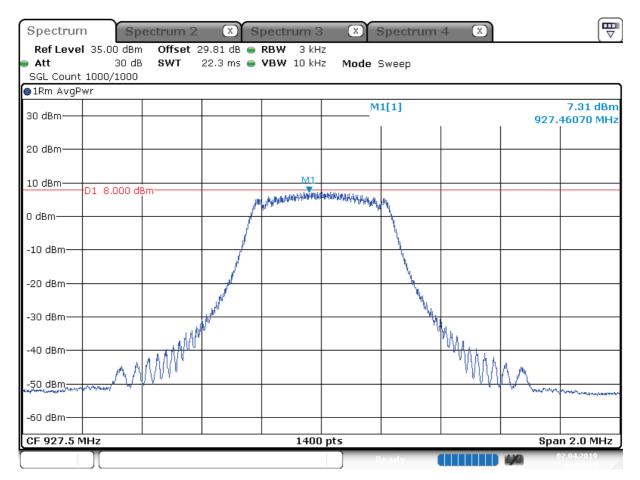
Date: 2.APR.2019 15:09:35





Date: 2.APR.2019 15:06:47



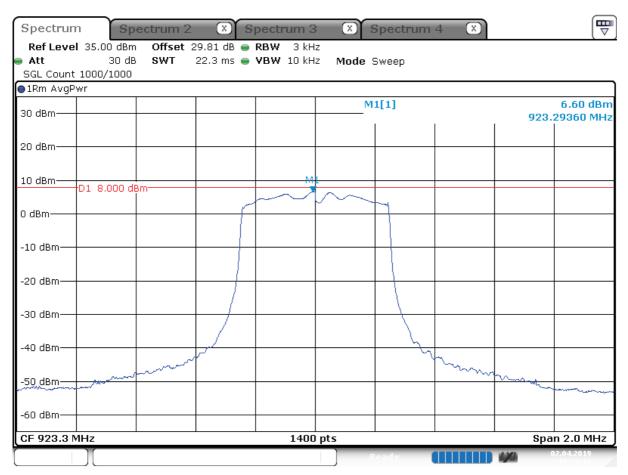


Date: 2.APR.2019 14:53:51



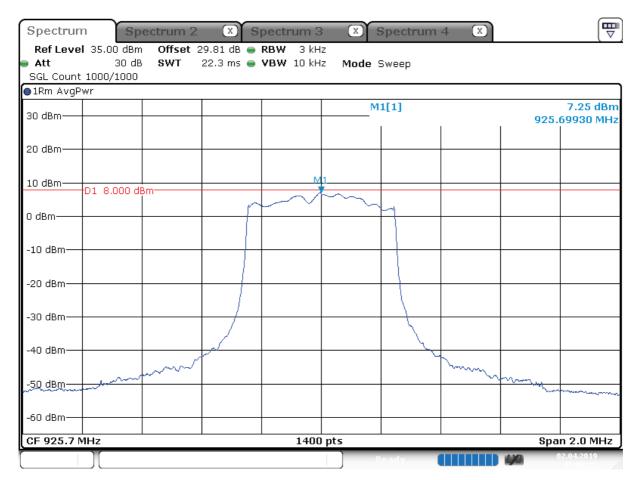
#### SPREAD FACTOR 12

## Frequency 923.3 MHz



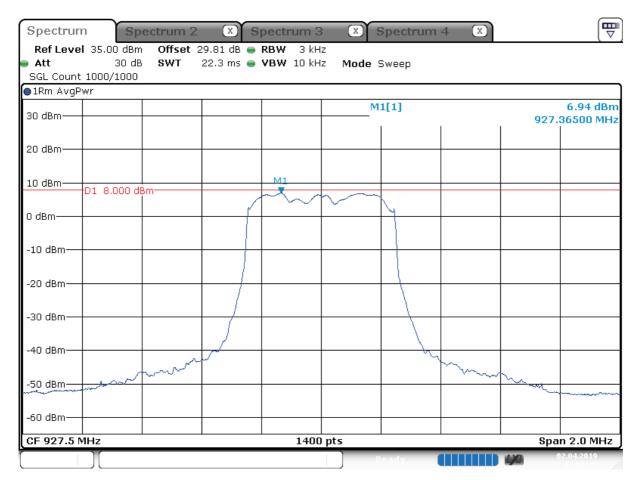
Date: 2.APR.2019 15:21:11





Date: 2.APR.2019 15:02:23





Date: 2.APR.2019 14:58:43



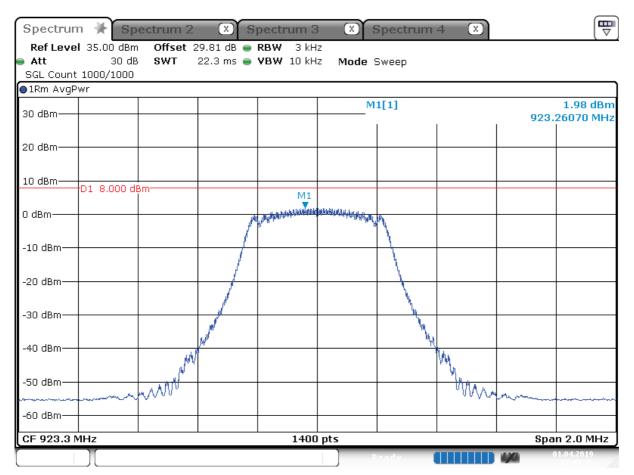
#### Measure realized with 24dBm

Module 1

**RF OUTPUT 1** 

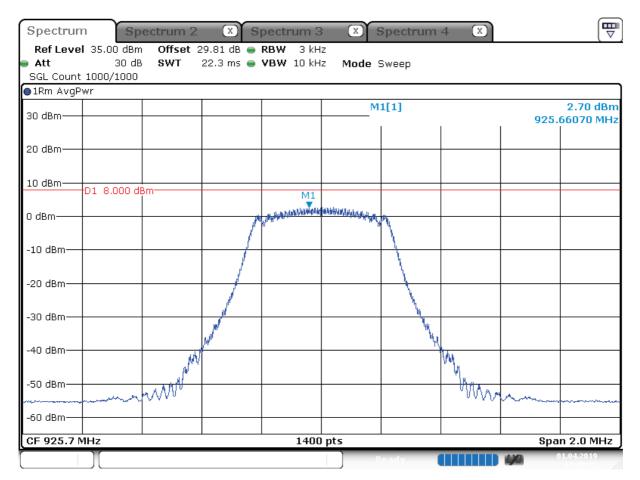
SPREAD FACTOR 7

Frequency 923.3 MHz



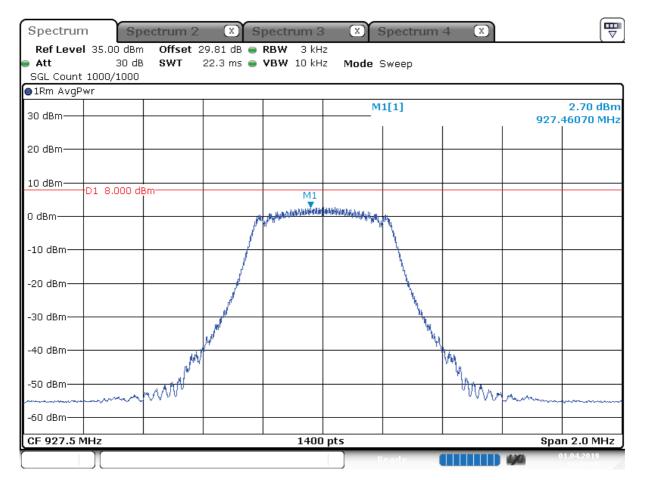
Date: 1.APR.2019 12:40:35





Date: 1.APR.2019 12:39:32



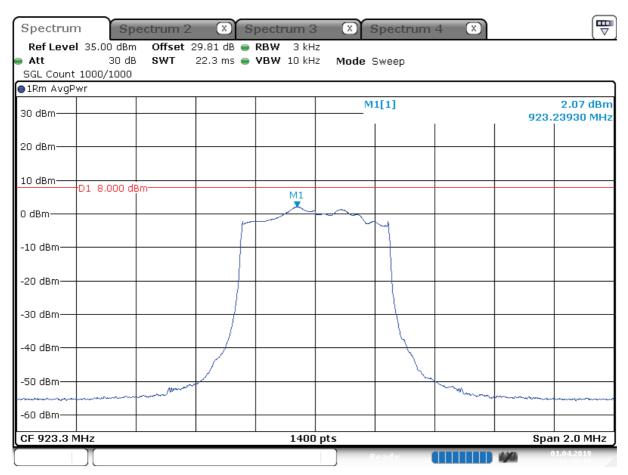


Date: 1.APR.2019 12:32:56



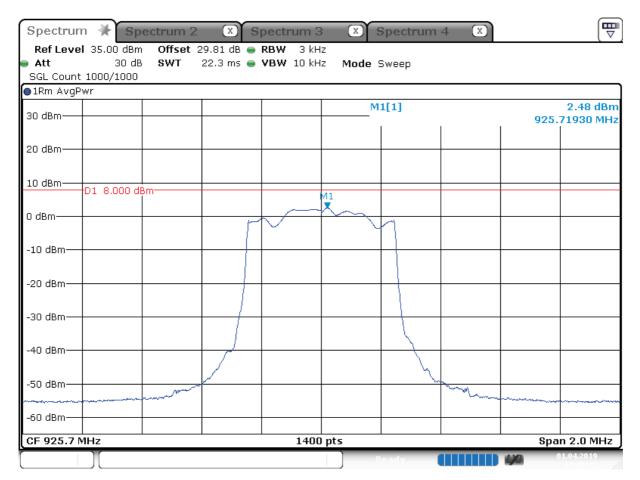
#### SPREAD FACTOR 12

## Frequency 923.3 MHz



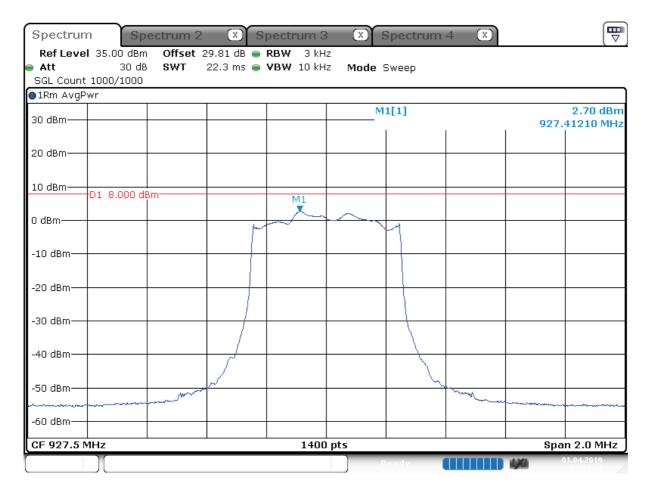
Date: 1.APR.2019 12:42:17





Date: 1.APR.2019 12:36:32





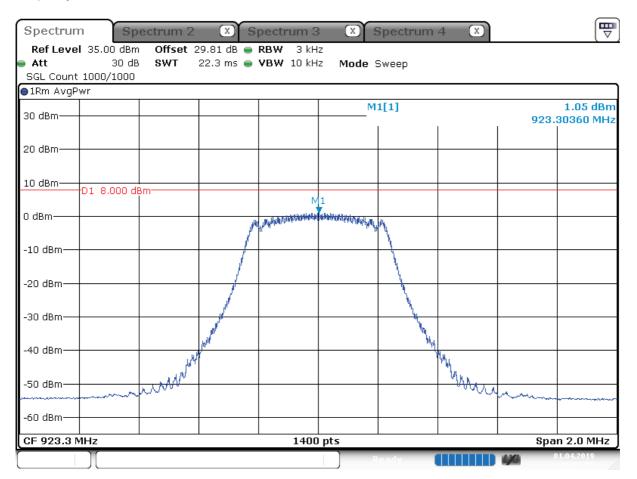
Date: 1.APR.2019 12:34:59



RF OUTPUT 2

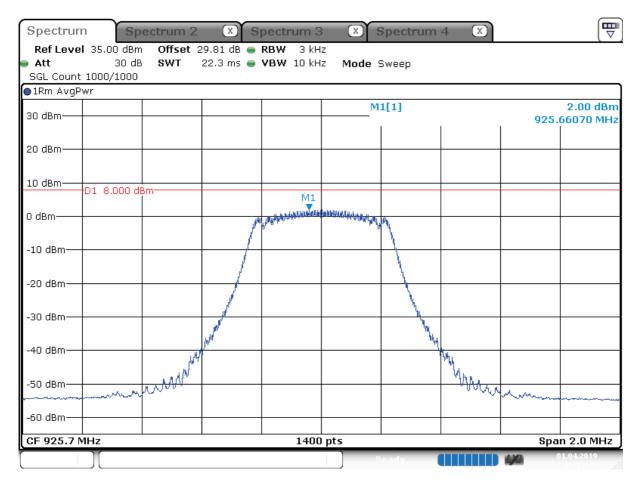
SPREAD FACTOR 7

Frequency 923.3 MHz



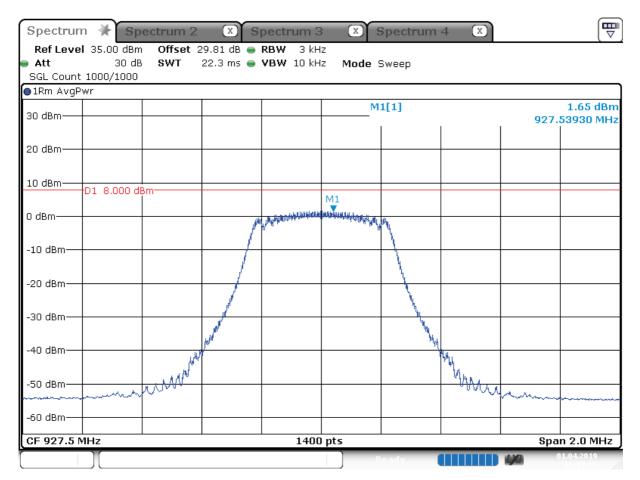
Date: 1.APR.2019 16:07:56





Date: 1.APR.2019 16:13:42



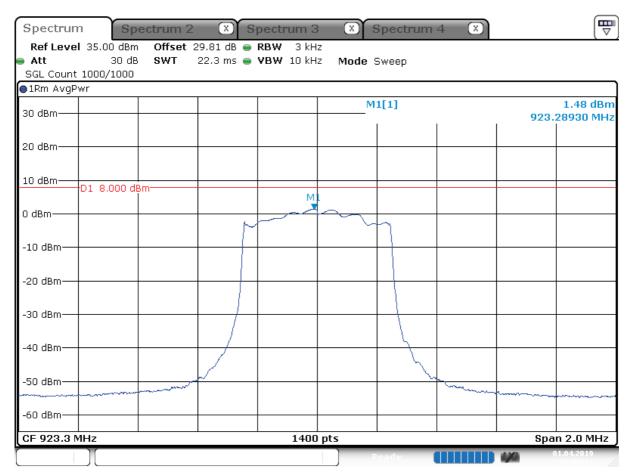


Date: 1.APR.2019 16:15:55



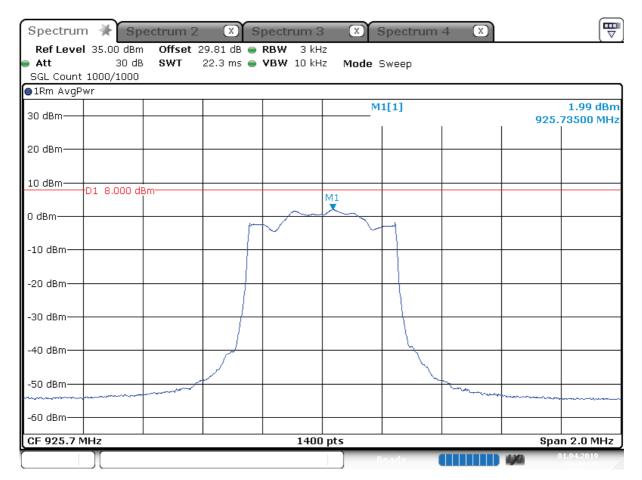
#### SPREAD FACTOR 12

## Frequency 923.3 MHz



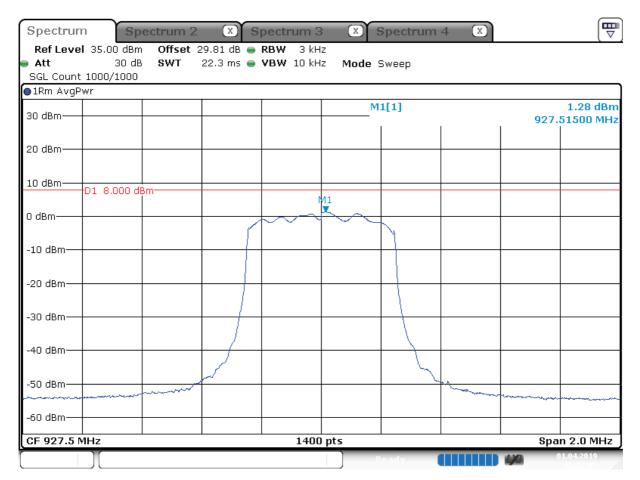
Date: 1.APR.2019 16:09:23





Date: 1.APR.2019 16:11:35





Date: 1.APR.2019 16:17:03

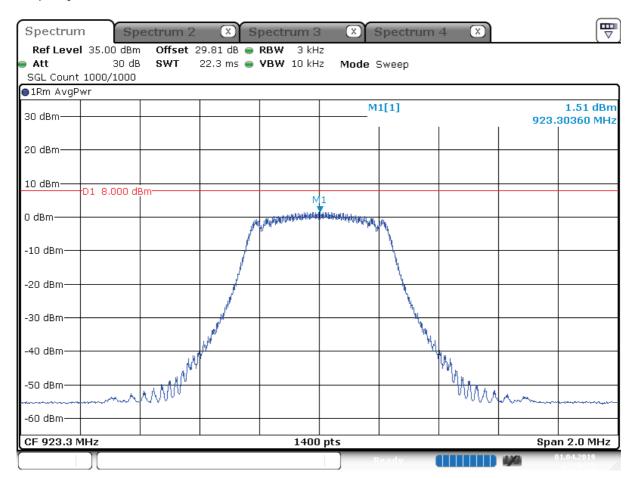


Module 2

**RF OUTPUT 1** 

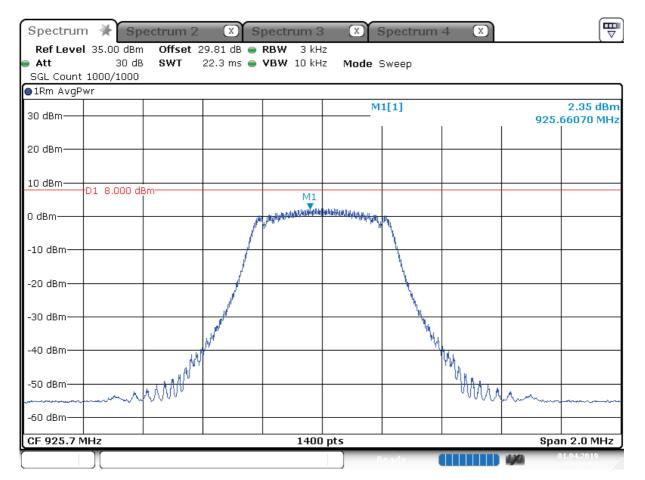
SPREAD FACTOR 7

Frequency 923.3 MHz



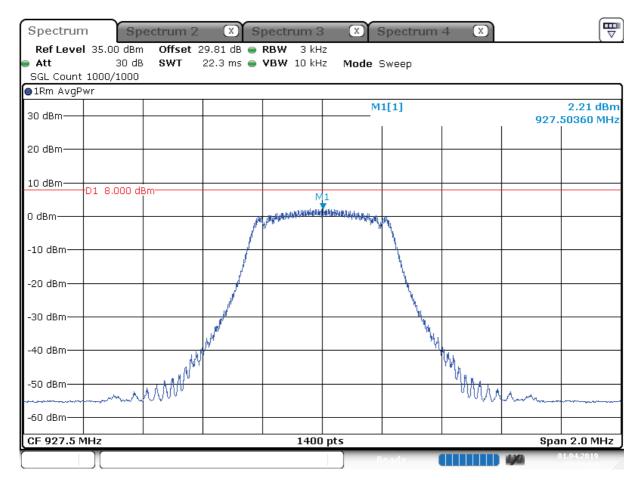
Date: 1.APR.2019 12:46:25





Date: 1.APR.2019 12:48:54



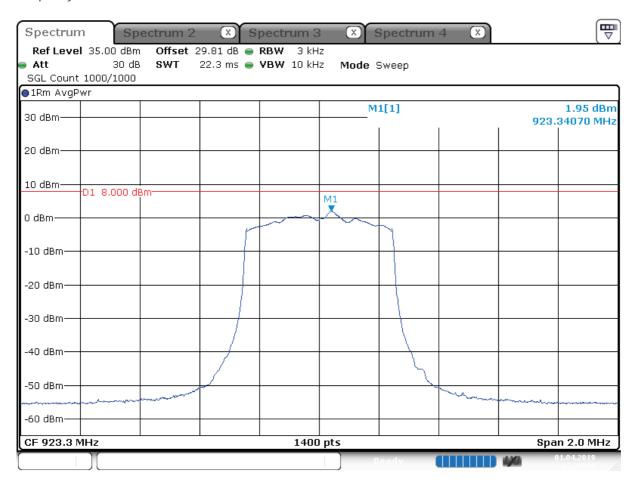


Date: 1.APR.2019 12:55:04



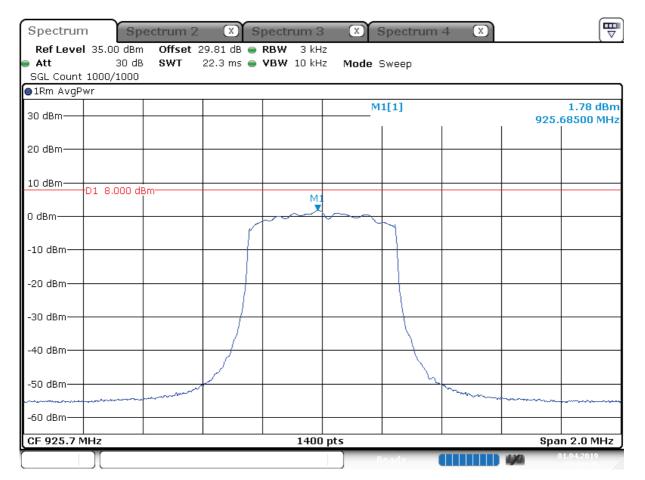
#### SPREAD FACTOR 12

## Frequency 923.3 MHz



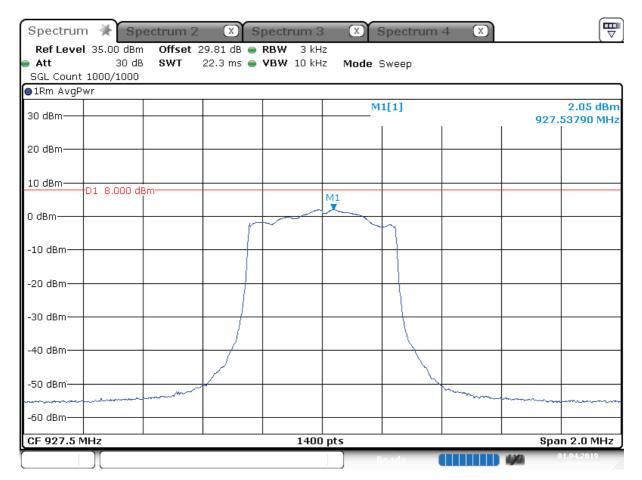
Date: 1.APR.2019 12:44:08





Date: 1.APR.2019 12:50:46





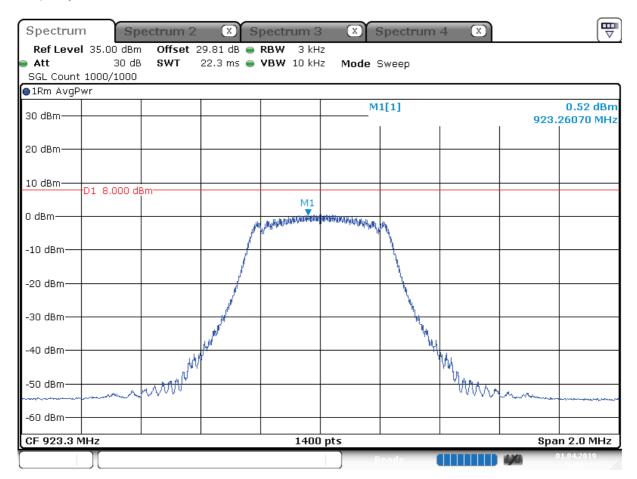
Date: 1.APR.2019 12:52:44



RF OUTPUT 2

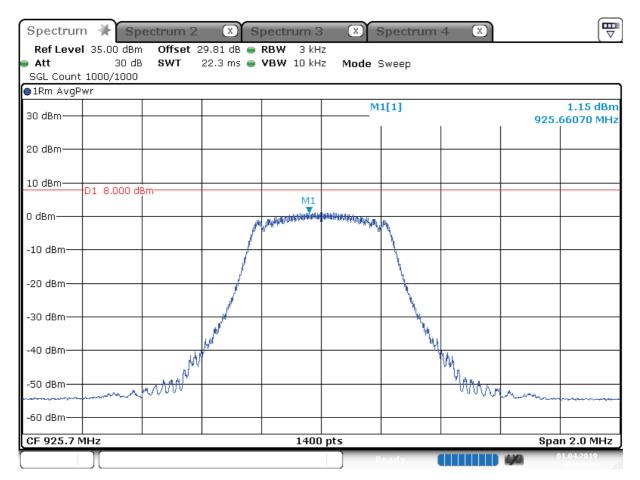
#### SPREAD FACTOR 7

Frequency 923.3 MHz



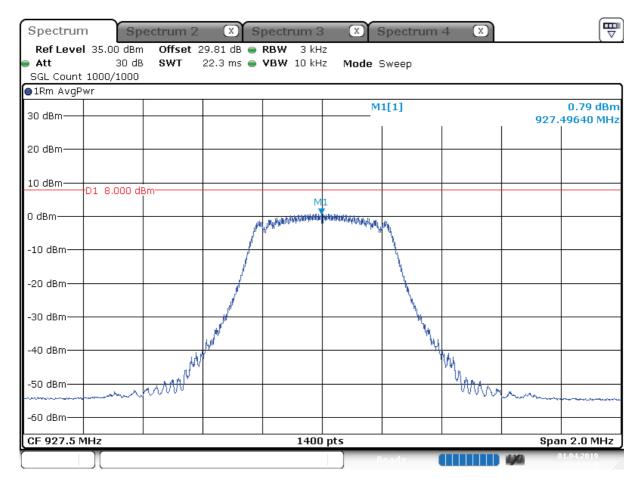
Date: 1.APR.2019 16:05:44





Date: 1.APR.2019 15:59:37



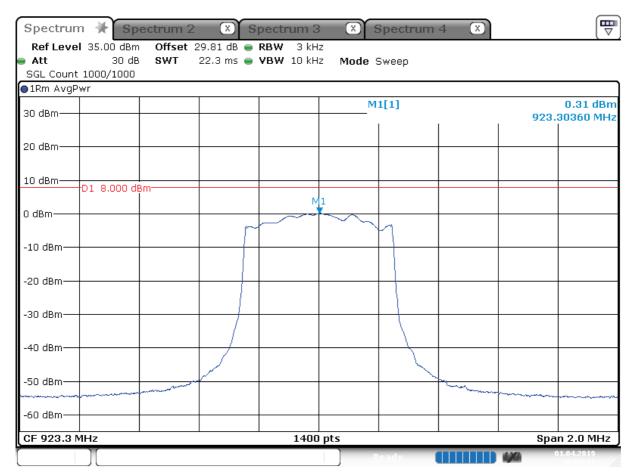


Date: 1.APR.2019 15:57:21



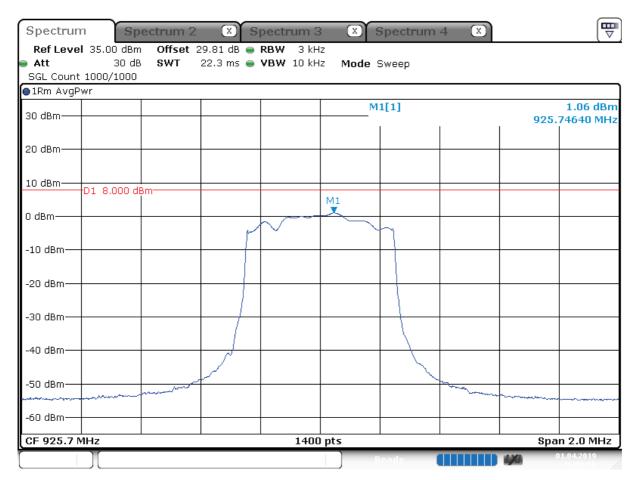
#### SPREAD FACTOR 12

## Frequency 923.3 MHz



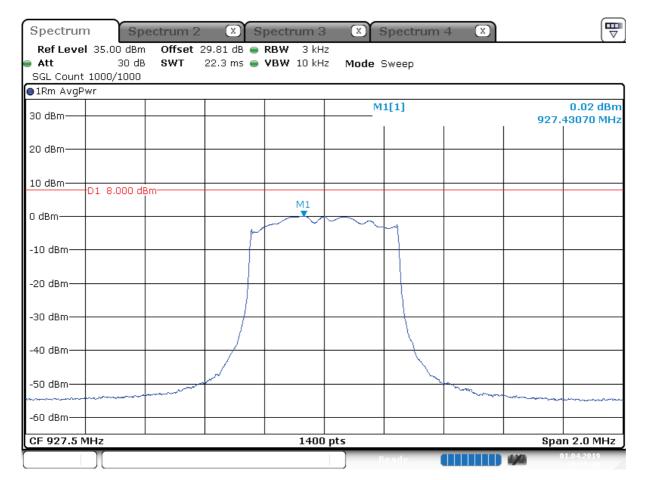
Date: 1.APR.2019 16:04:20





Date: 1.APR.2019 16:01:57





Date: 1.APR.2019 15:55:41

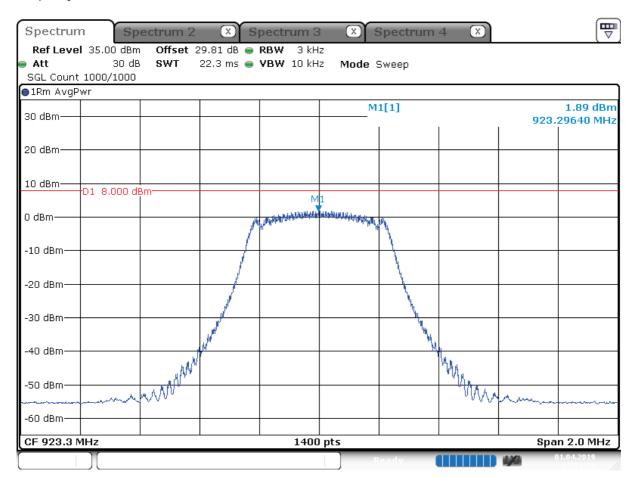


Module 3

**RF OUTPUT 1** 

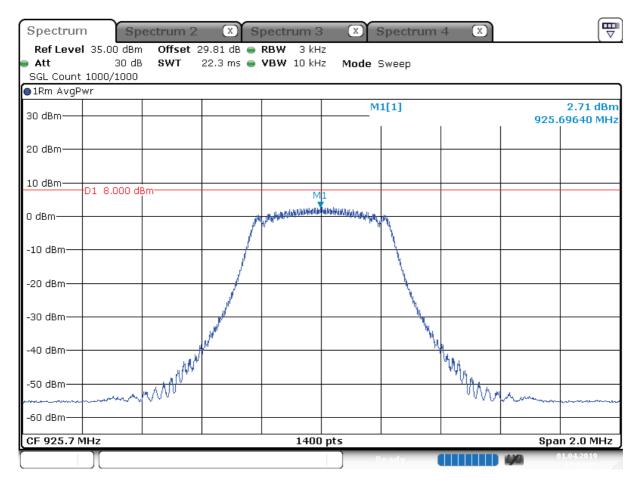
SPREAD FACTOR 7

Frequency 923.3 MHz



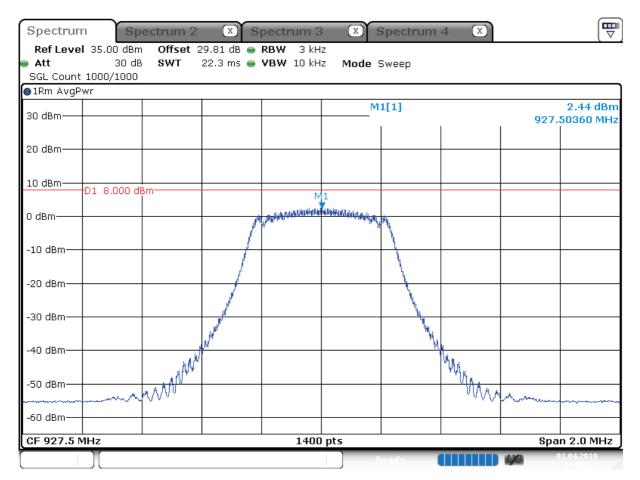
Date: 1.APR.2019 13:21:51





Date: 1.APR.2019 13:14:38



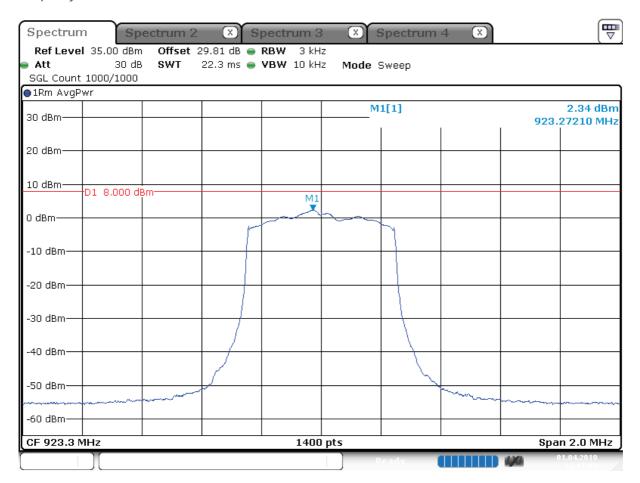


Date: 1.APR.2019 13:06:22



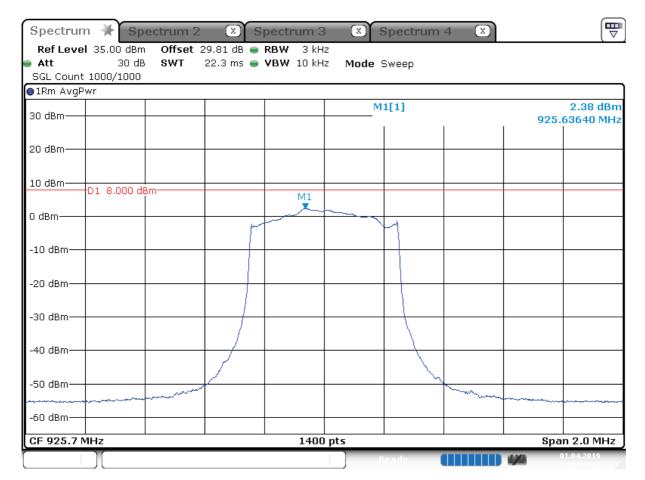
#### SPREAD FACTOR 12

## Frequency 923.3 MHz



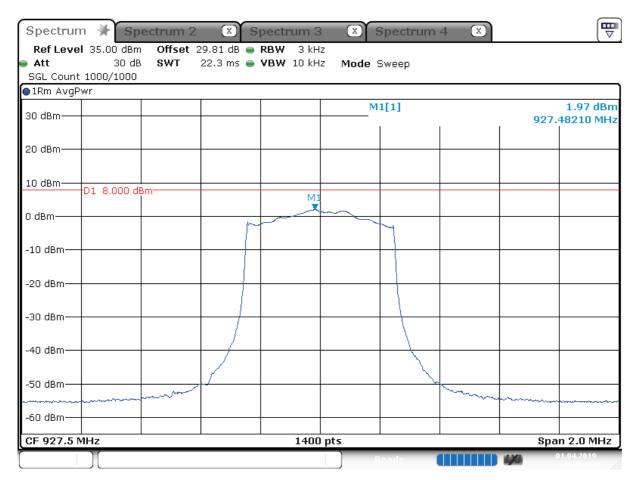
Date: 1.APR.2019 13:17:10





Date: 1.APR.2019 13:12:13





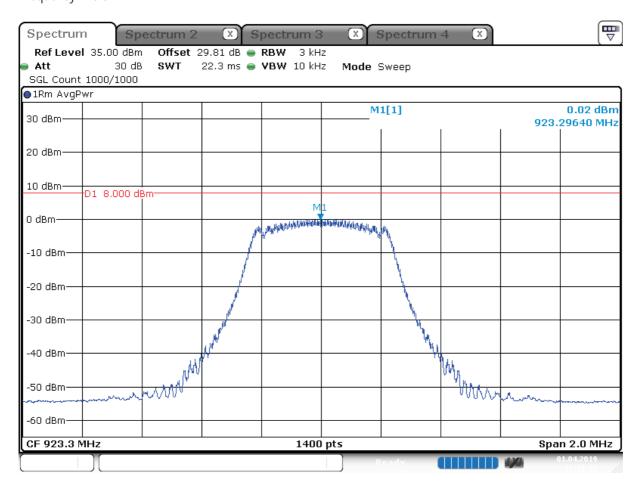
Date: 1.APR.2019 16:35:14



RF OUTPUT 2

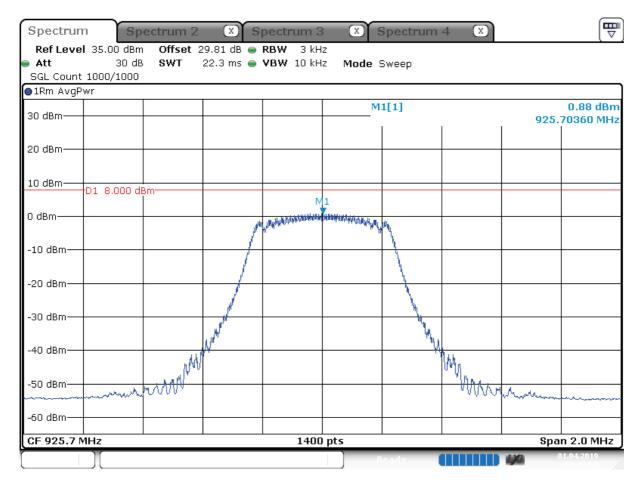
#### SPREAD FACTOR 7

Frequency 923.3 MHz



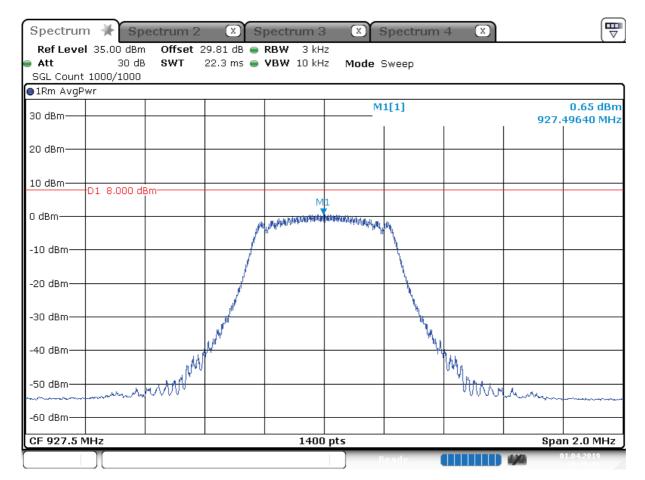
Date: 1.APR.2019 15:38:36





Date: 1.APR.2019 15:43:51



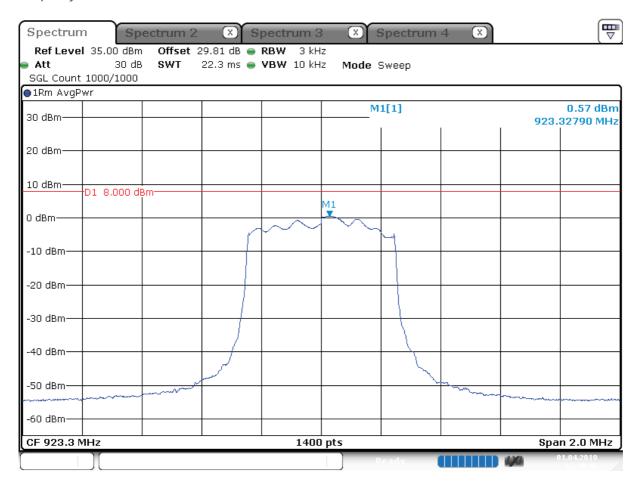


Date: 1.APR.2019 15:46:16



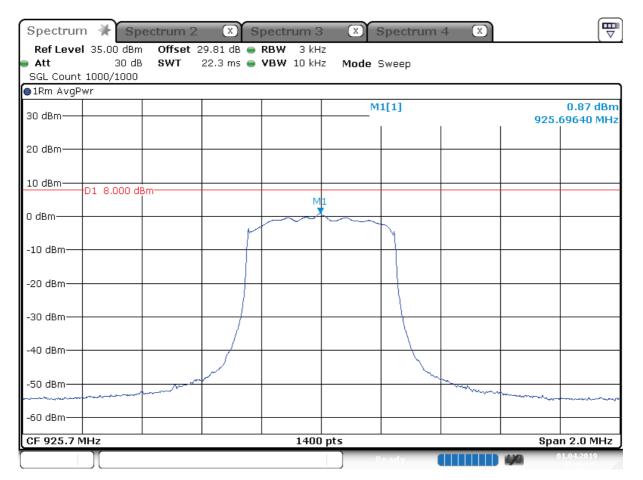
#### SPREAD FACTOR 12

## Frequency 923.3 MHz



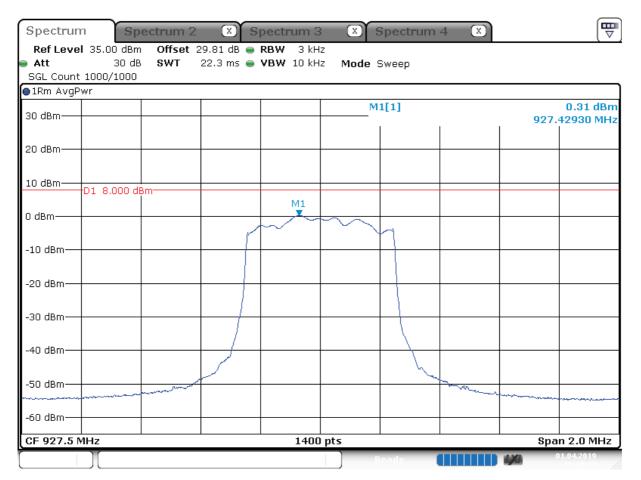
Date: 1.APR.2019 15:40:46





Date: 1.APR.2019 15:42:48





Date: 1.APR.2019 15:49:39

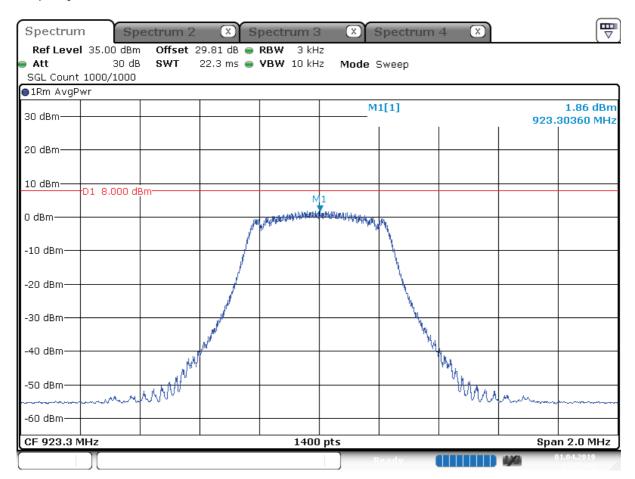


Module 4

**RF OUTPUT 1** 

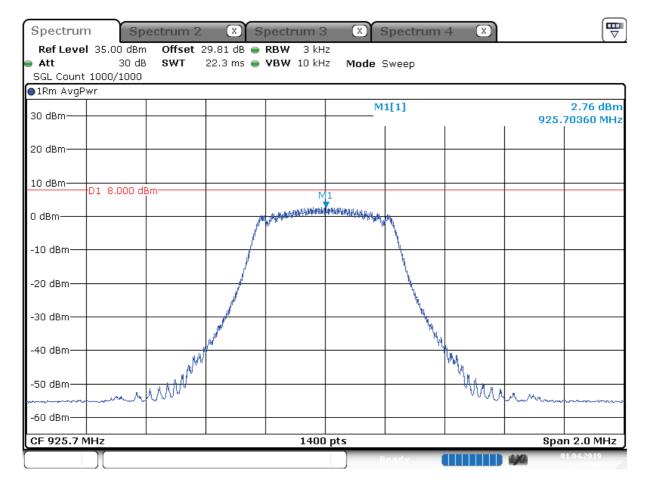
SPREAD FACTOR 7

Frequency 923.3 MHz



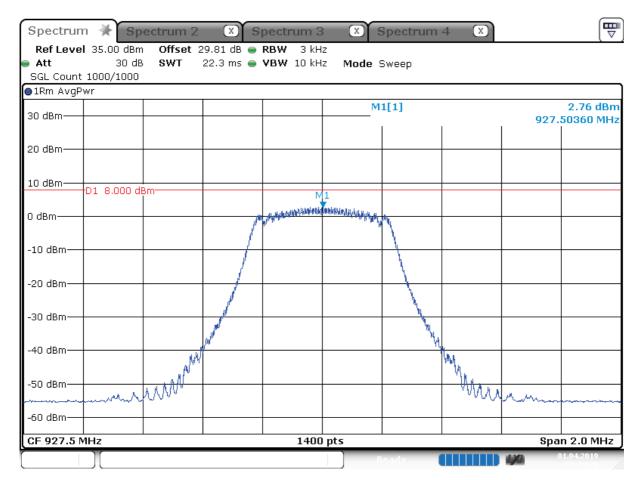
Date: 1.APR.2019 13:25:43





Date: 1.APR.2019 13:33:06



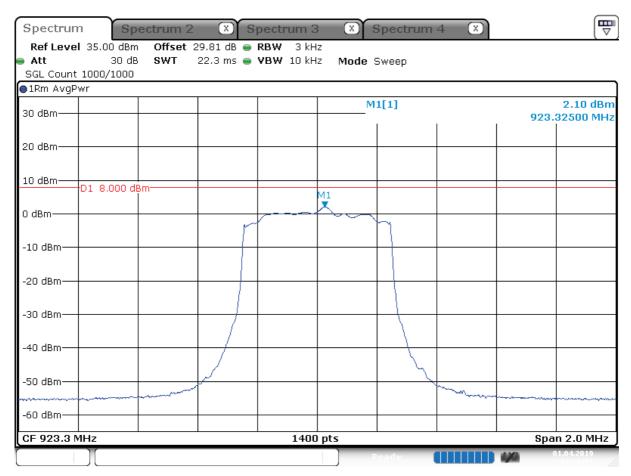


Date: 1.APR.2019 13:34:27



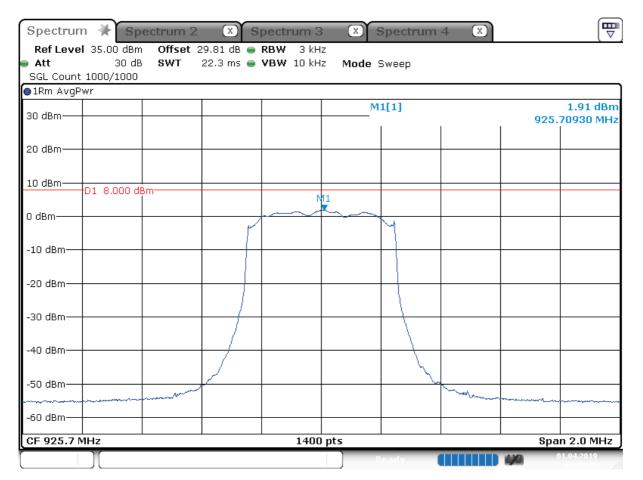
#### SPREAD FACTOR 12

## Frequency 923.3 MHz



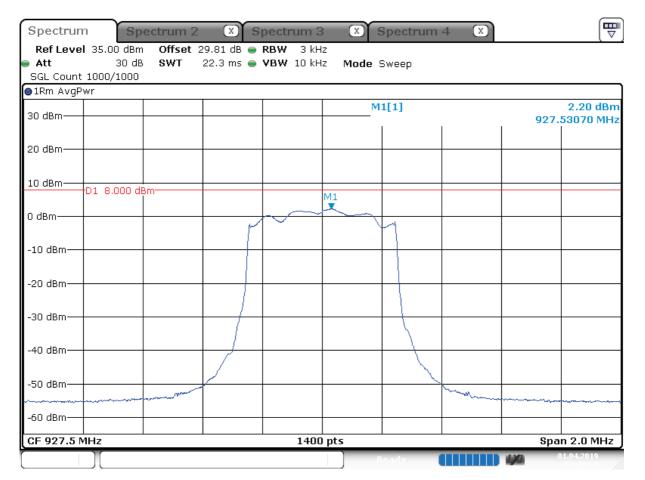
Date: 1.APR.2019 13:28:54





Date: 1.APR.2019 13:30:37





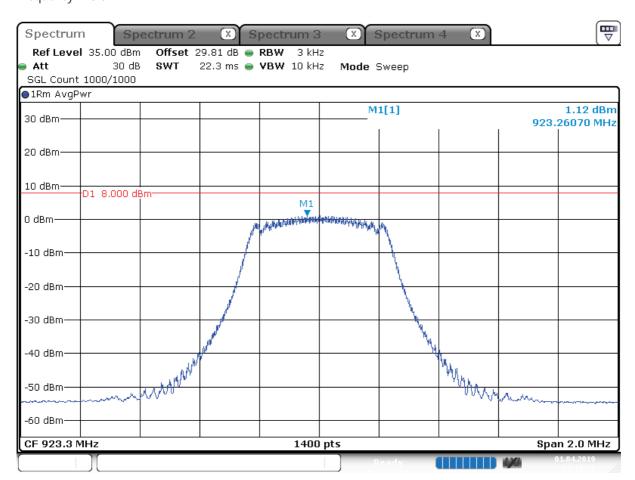
Date: 1.APR.2019 13:37:22



#### RF OUTPUT 2

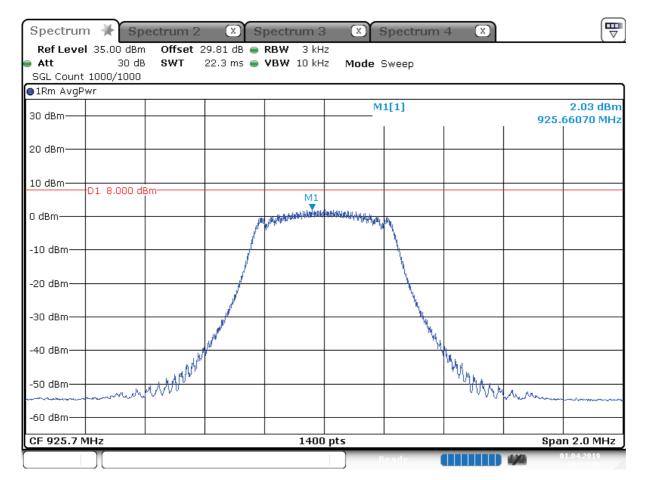
#### SPREAD FACTOR 7

Frequency 923.3 MHz



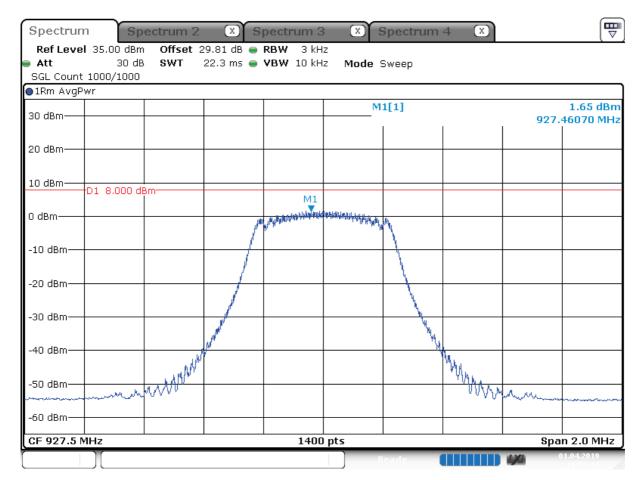
Date: 1.APR.2019 14:39:35





Date: 1.APR.2019 13:53:47



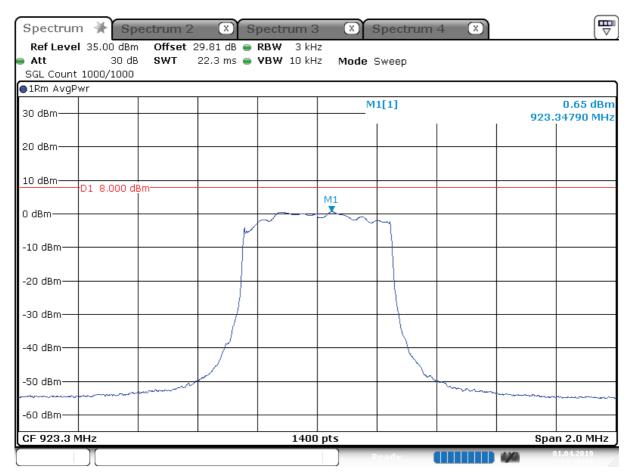


Date: 1.APR.2019 13:52:12



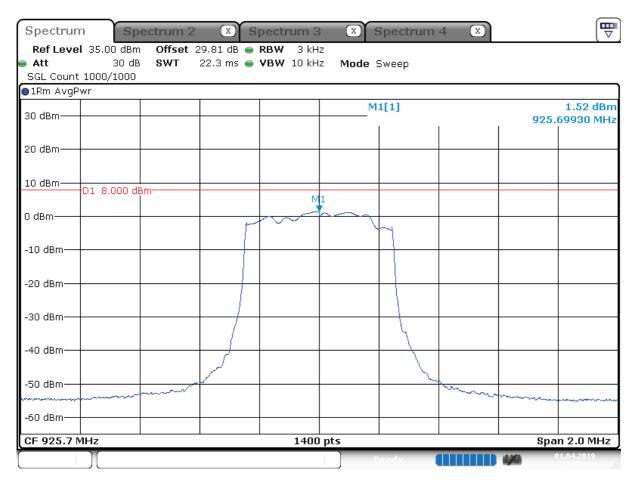
#### SPREAD FACTOR 12

## Frequency 923.3 MHz



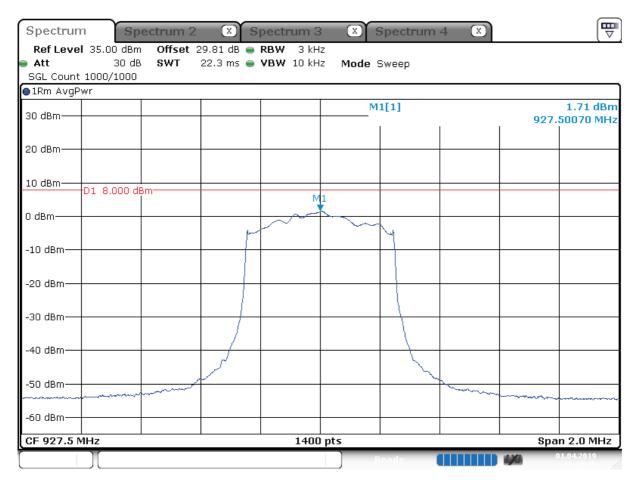
Date: 1.APR.2019 14:36:10





Date: 1.APR.2019 13:55:34





Date: 1.APR.2019 13:49:35