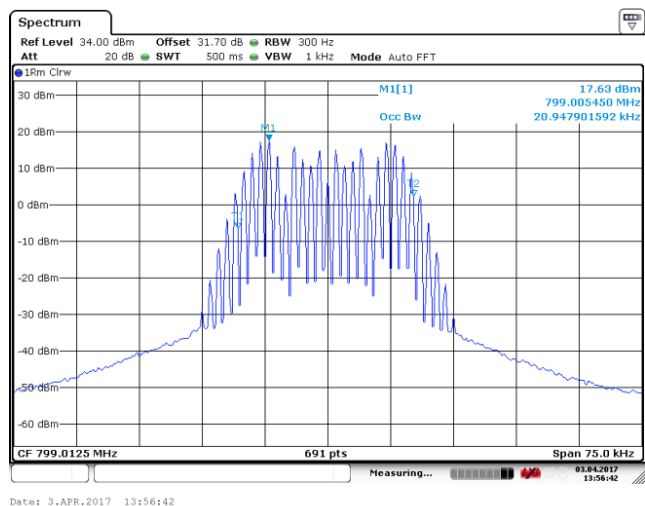
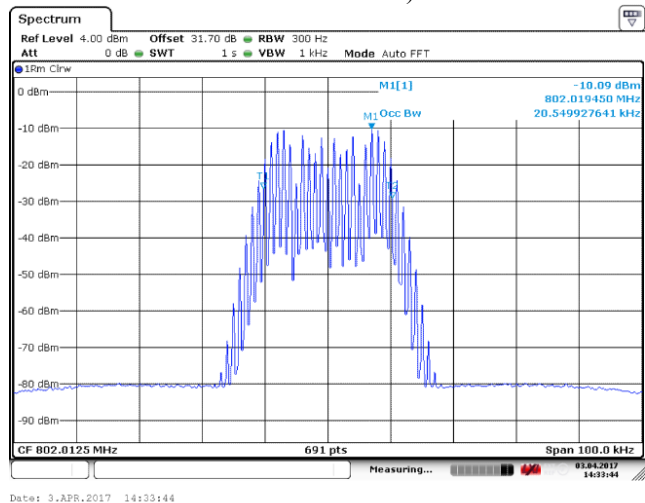
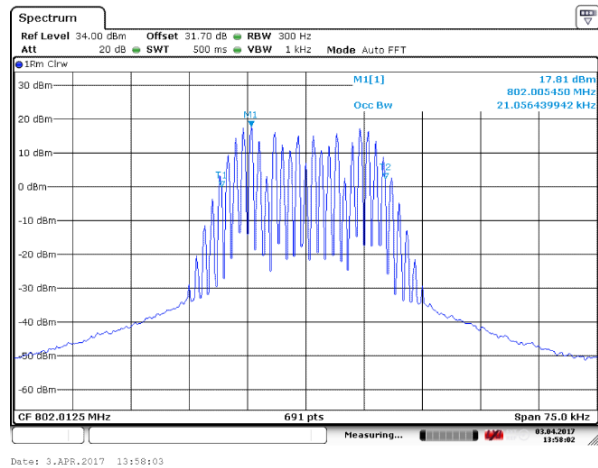




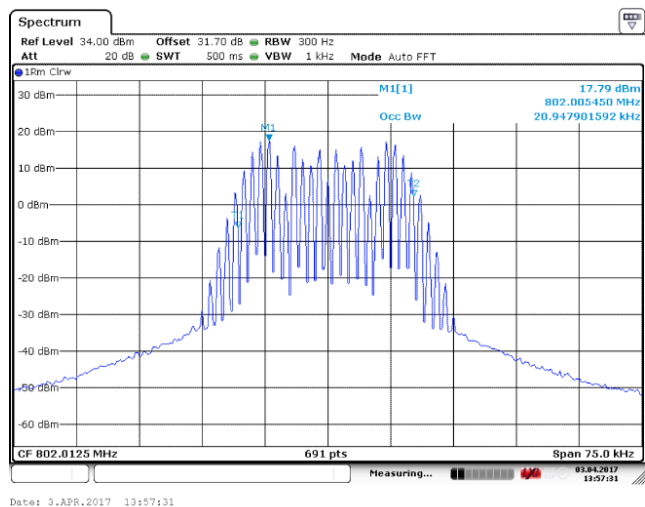
Low Frequency: 799.0125MHz, Input occupied BW(with the input signal amplitude set 3 dB above the ALC threshold)



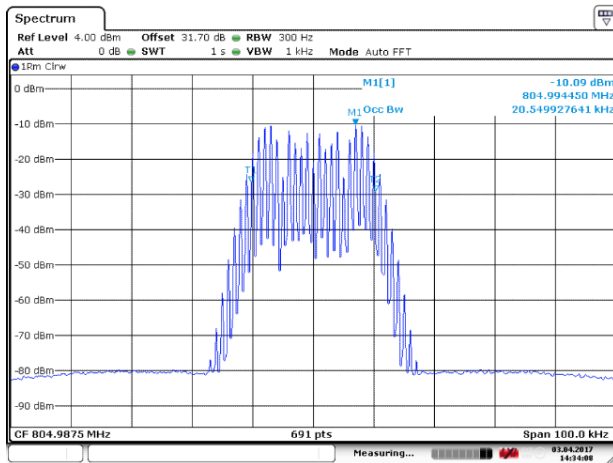
Mid Frequency: 802.0125MHz, Input occupied BW



Mid Frequency: 802.0125MHz, Output occupied BW(ALC)

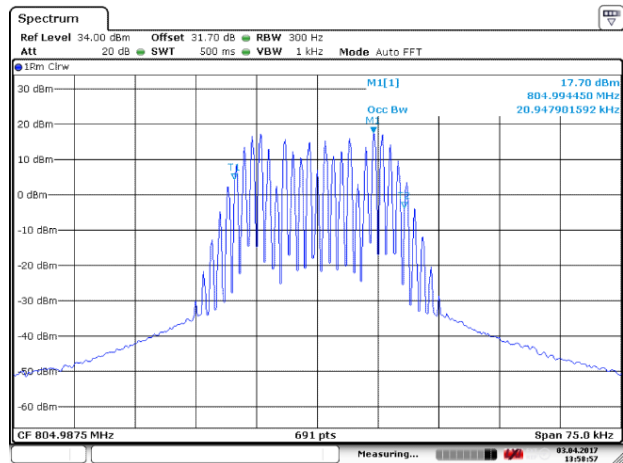


Mid Frequency: 802.0125MHz, Input occupied BW(with the input signal amplitude set 3 dB above the ALC threshold)



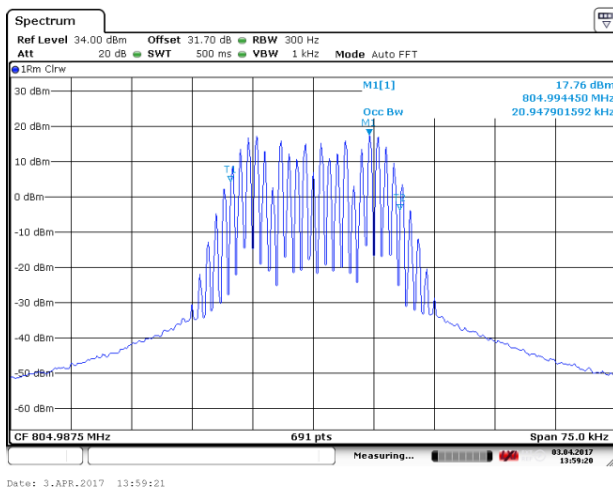
Date: 3.APR.2017 14:34:09

High Frequency: 804.9875MHz, Input occupied BW



Date: 3.APR.2017 13:58:58

High Frequency: 804.9875MHz, Output occupied BW(ALC)



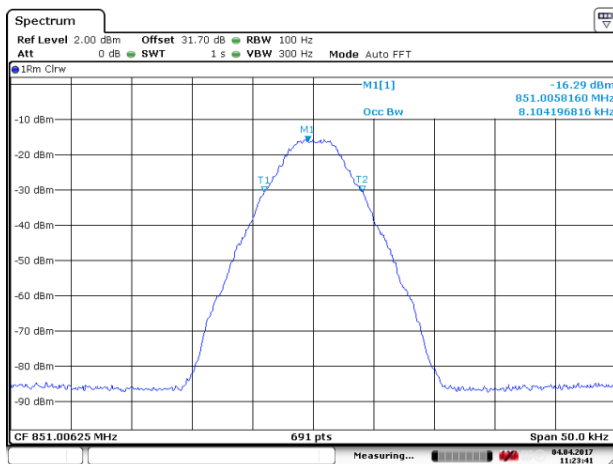
Date: 3.APR.2017 13:59:21

High Frequency: 804.9875MHz, Input occupied BW(with the input signal amplitude set 3 dB above the ALC threshold)

6.2.5.2 800MHz Band

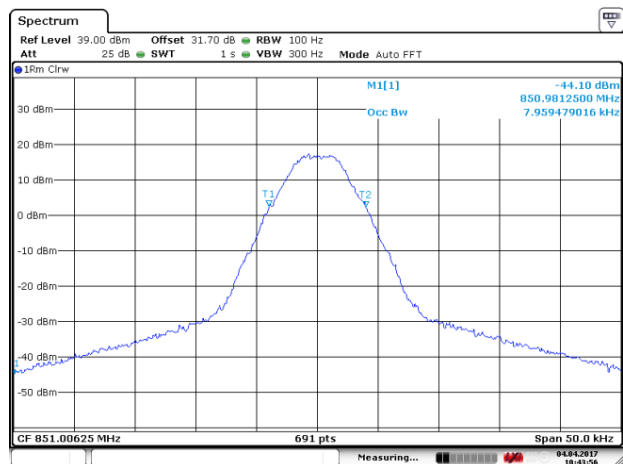
6.2.5.2.1 Modulation signal: C4FM

(1) Downlink



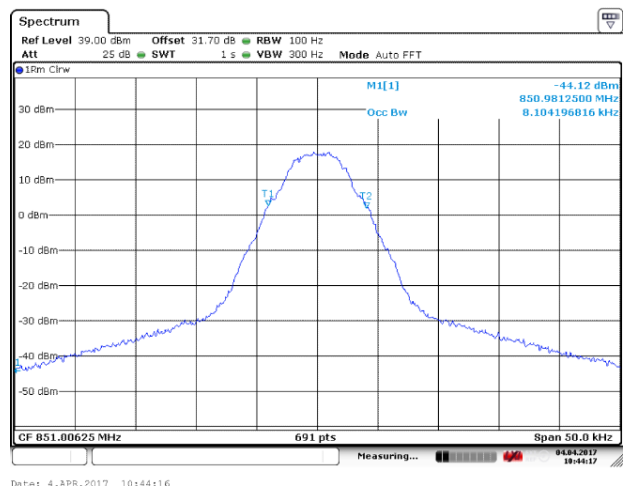
Date: 4.APR.2017 11:23:40

Low Frequency: 851.00625MHz, Input occupied BW

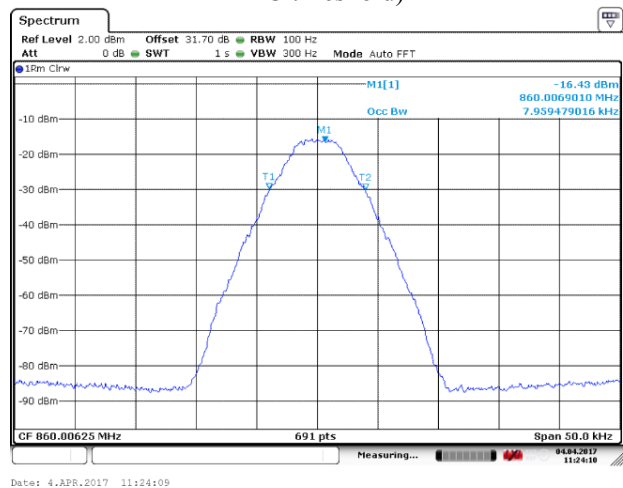


Date: 4.APR.2017 10:43:55

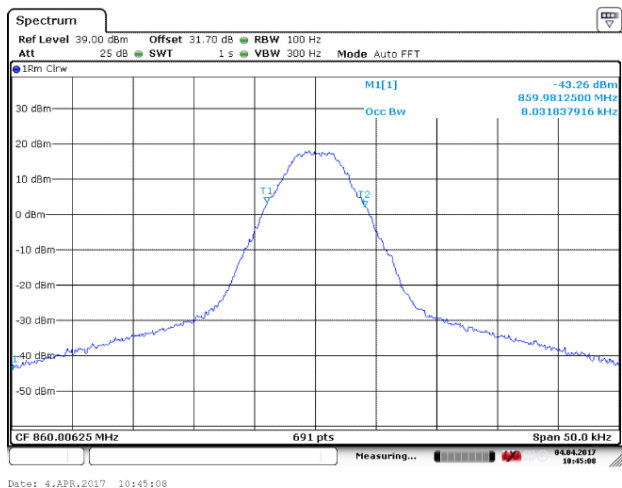
Low Frequency: 851.00625MHz, Output occupied BW(ALC)



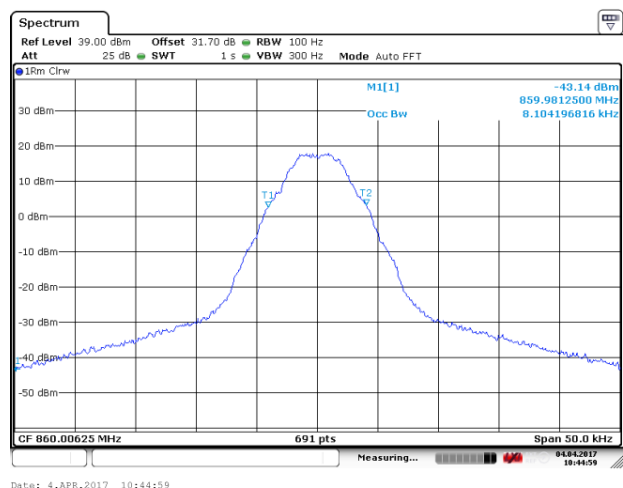
Low Frequency: 851.00625MHz, Output occupied BW(with the input signal amplitude set 3 dB above the ALC threshold)



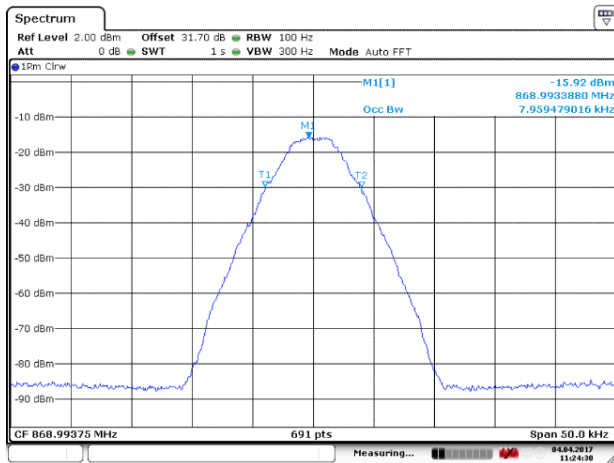
Mid Frequency: 860.00625MHz, Input occupied BW



Mid Frequency: 860.00625MHz, Output occupied BW(ALC)

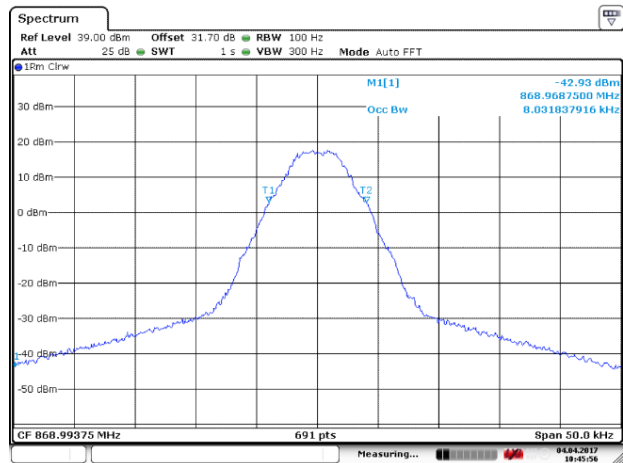


Mid Frequency: 860.00625MHz, Output occupied BW(with the input signal amplitude set 3 dB above the ALC threshold)



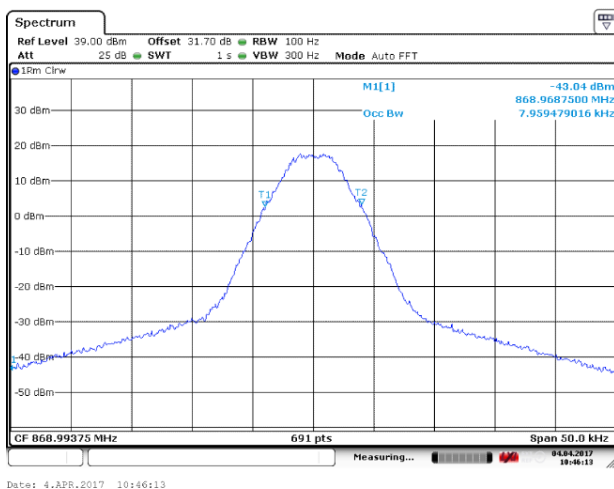
Date: 4.APR.2017 11:24:30

High Frequency: 868.99375MHz, Input occupied BW



Date: 4.APR.2017 10:45:56

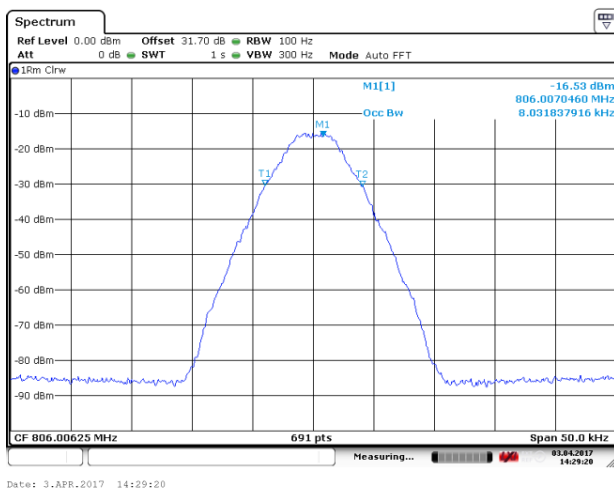
High Frequency: 868.99375MHz, Output occupied BW(ALC)



Date: 4.APR.2017 10:46:13

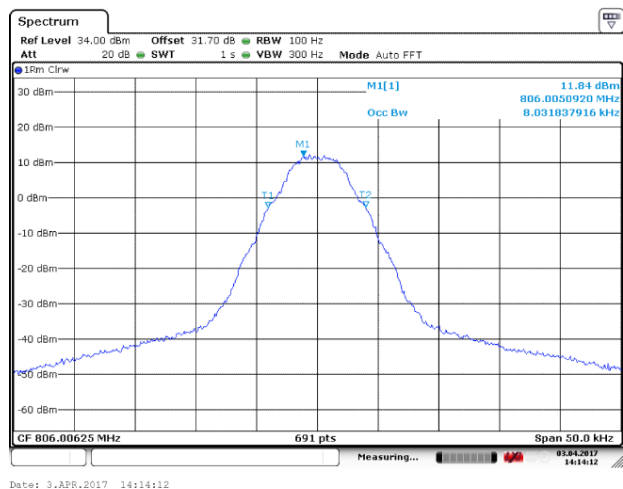
High Frequency: 868.99375MHz, Output occupied BW(with the input signal amplitude set 3 dB above the ALC threshold)

(2) Uplink



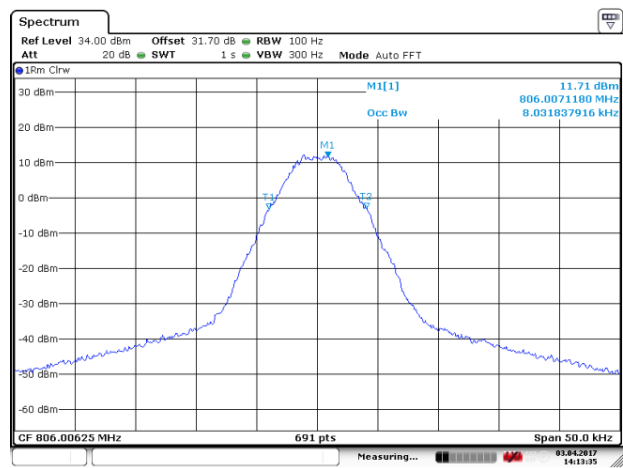
Date: 3.APR.2017 14:29:20

Low Frequency: 806.00625MHz, Input occupied BW

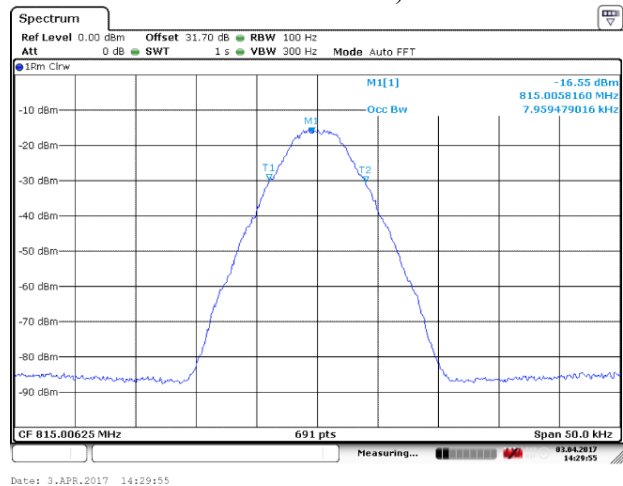


Date: 3.APR.2017 14:14:12

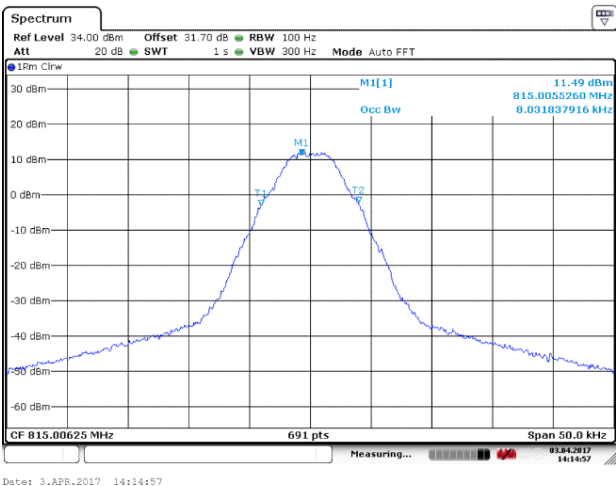
Low Frequency: 806.00625MHz, Output occupied BW(ALC)



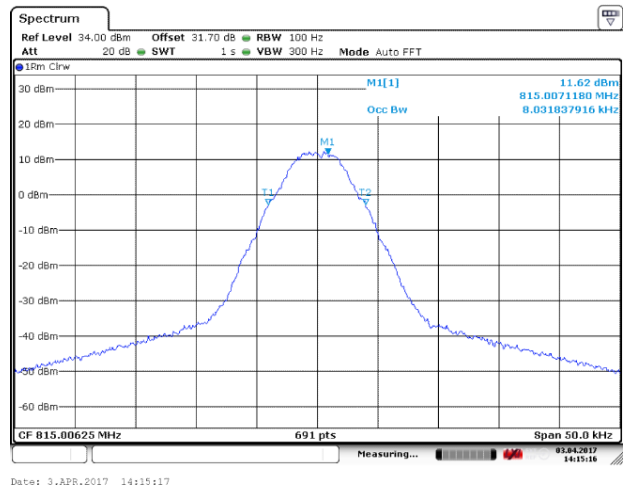
Low Frequency: 806.00625MHz, Output occupied BW(with the input signal amplitude set 3 dB above the ALC threshold)



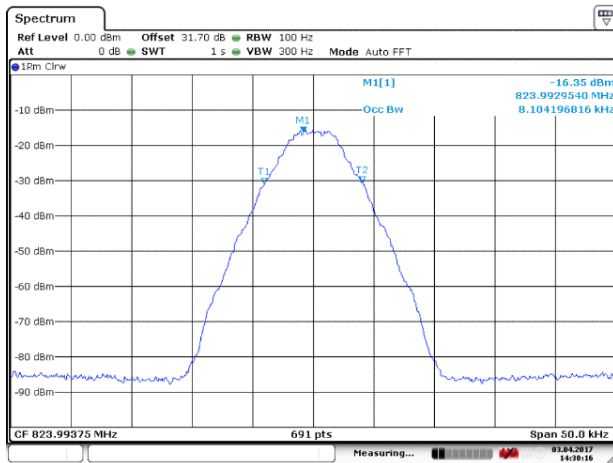
Mid Frequency: 815.00625MHz, Input occupied BW



Mid Frequency: 815.00625MHz, Output occupied BW(ALC)

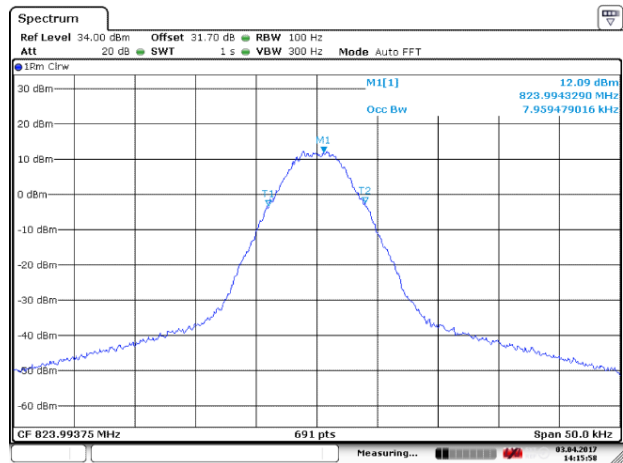


Mid Frequency: 815.00625MHz, Output occupied BW(with the input signal amplitude set 3 dB above the ALC threshold)



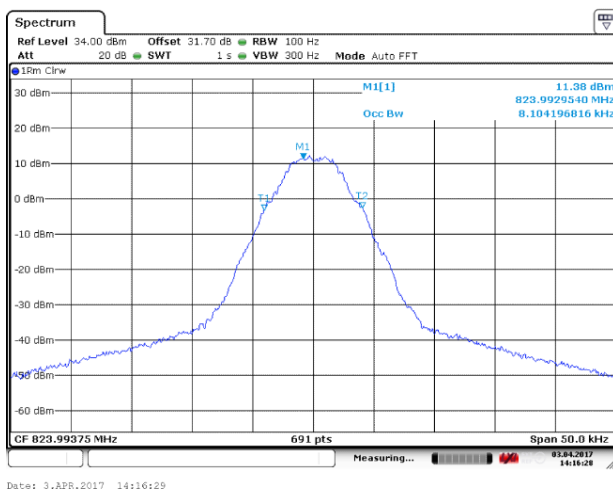
Date: 3.APR.2017 14:30:16

High Frequency: 823.99375MHz, Input occupied BW



Date: 3.APR.2017 14:15:58

High Frequency: 823.99375MHz, Output occupied BW(ALC)

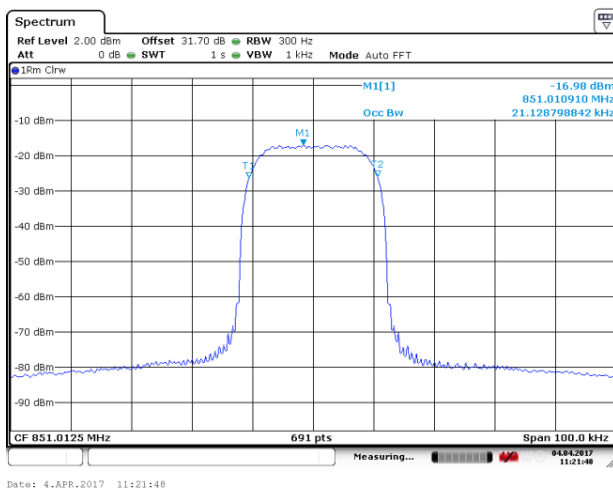


Date: 3.APR.2017 14:16:29

High Frequency: 823.99375MHz, Output occupied BW(with the input signal amplitude set 3 dB above the ALC threshold)

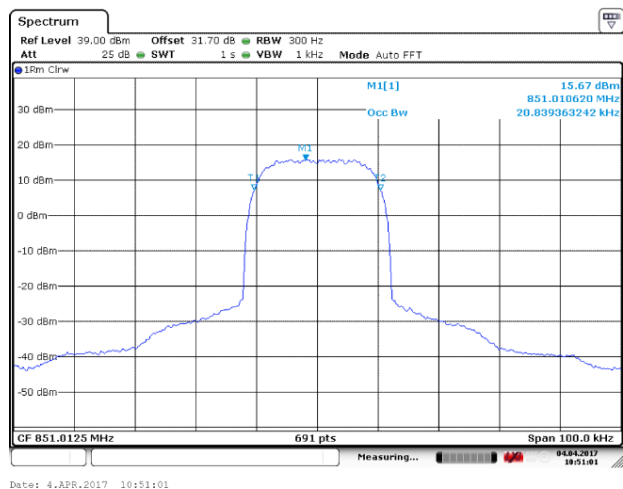
6.2.5.2.2 Modulation signal: Tetra

(1) Downlink



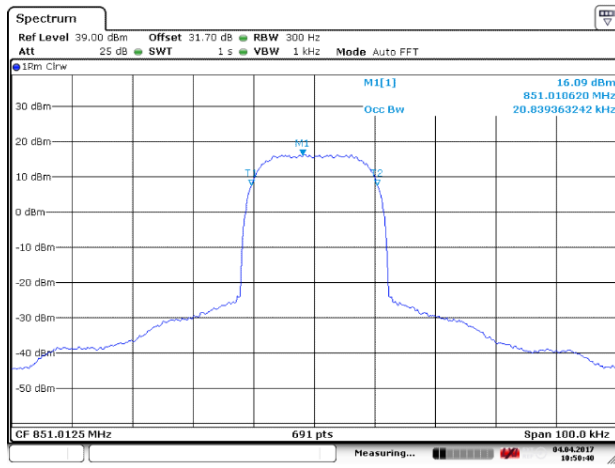
Date: 4.APR.2017 11:21:48

Low Frequency: 851.0125MHz, Input occupied BW



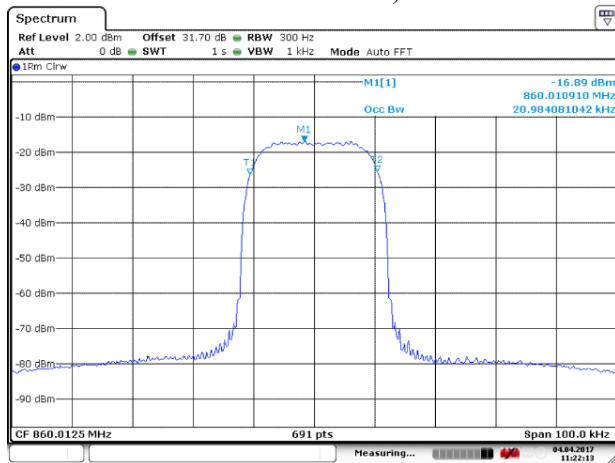
Date: 4.APR.2017 10:51:01

Low Frequency: 851.0125MHz, Output occupied BW(ALC)



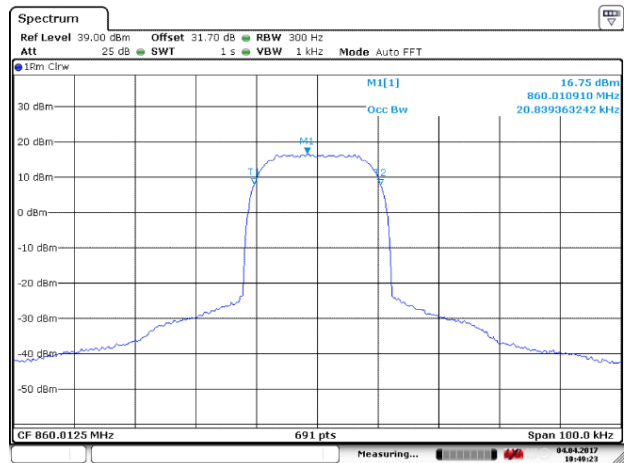
Date: 4.APR.2017 10:50:39

Low Frequency: 851.0125MHz, Output occupied BW(with the input signal amplitude set 3 dB above the ALC threshold)



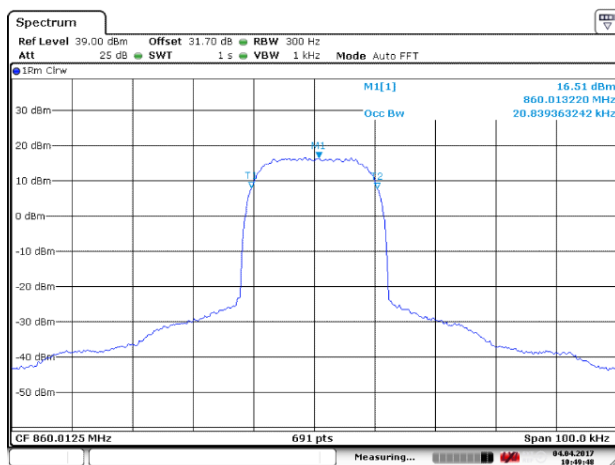
Date: 4.APR.2017 11:22:12

Mid Frequency: 860.0125MHz, Input occupied BW



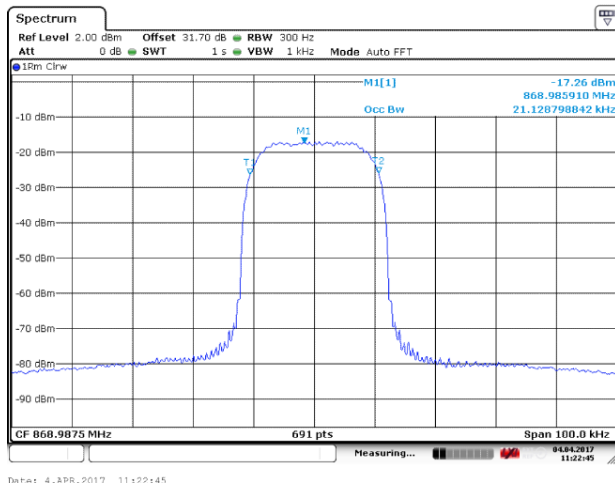
Date: 4.APR.2017 10:49:23

Mid Frequency: 860.0125MHz, Output occupied BW(ALC)



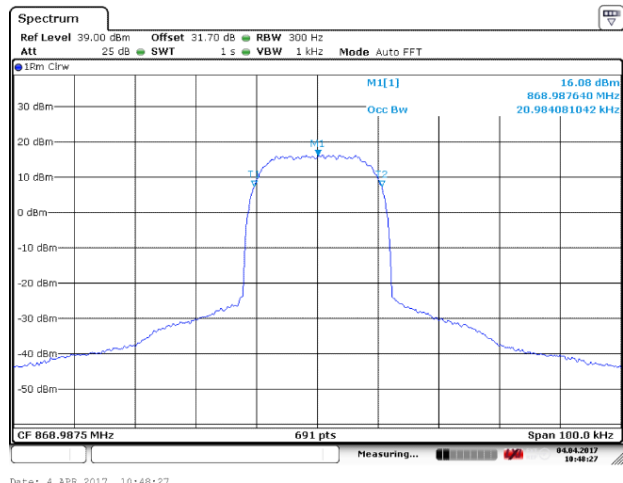
Date: 4.APR.2017 10:49:48

Mid Frequency: 860.0125MHz, Output occupied BW(with the input signal amplitude set 3 dB above the ALC threshold)



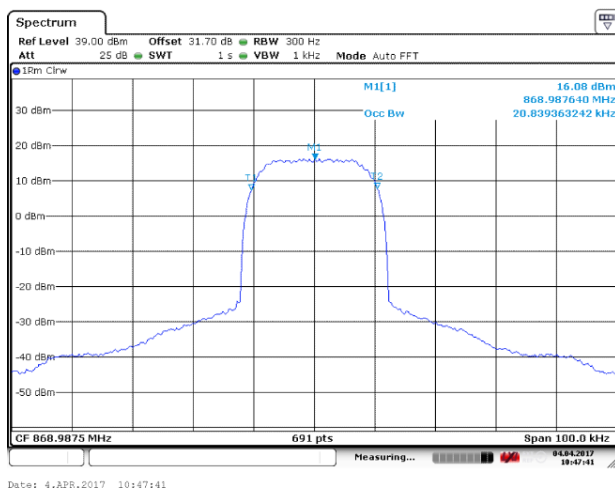
Date: 4.APR.2017 11:22:45

High Frequency: 868.9875MHz, Input occupied BW



Date: 4.APR.2017 10:48:27

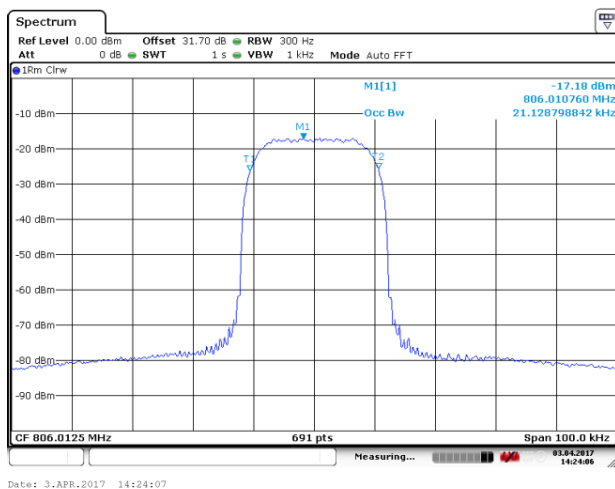
High Frequency: 868.9875MHz, Output occupied BW(ALC)



Date: 4.APR.2017 10:47:41

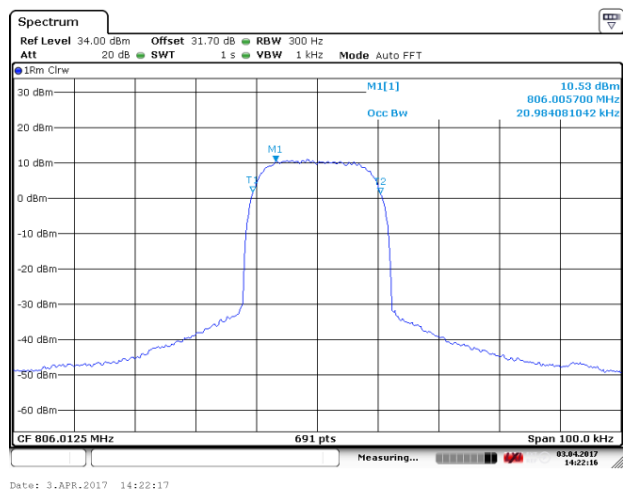
High Frequency: 868.9875MHz, Output occupied BW(with the input signal amplitude set 3 dB above the ALC threshold)

(2) Uplink



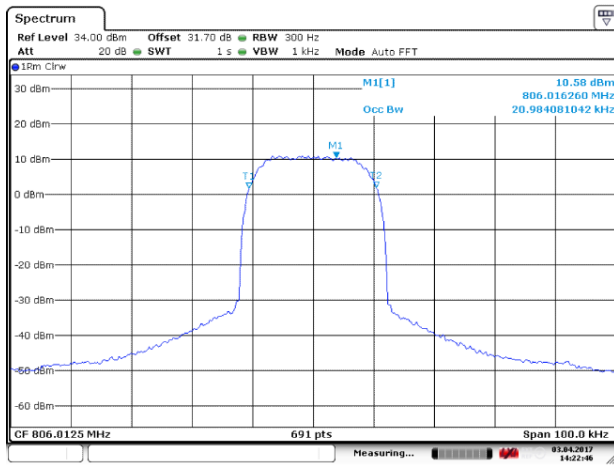
Date: 3.APR.2017 14:24:07

Low Frequency: 806.0125MHz, Input occupied BW

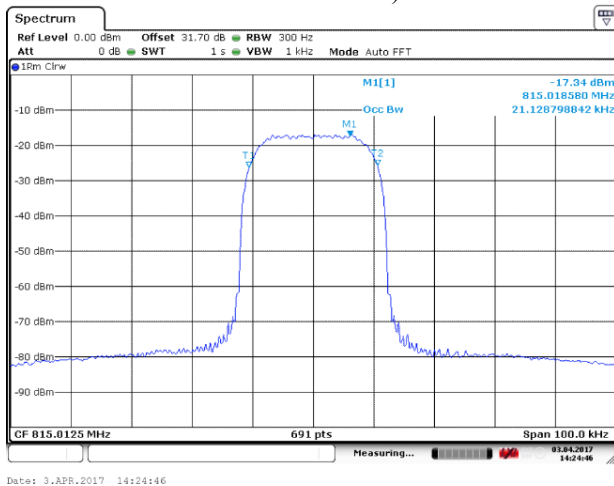


Date: 3.APR.2017 14:22:17

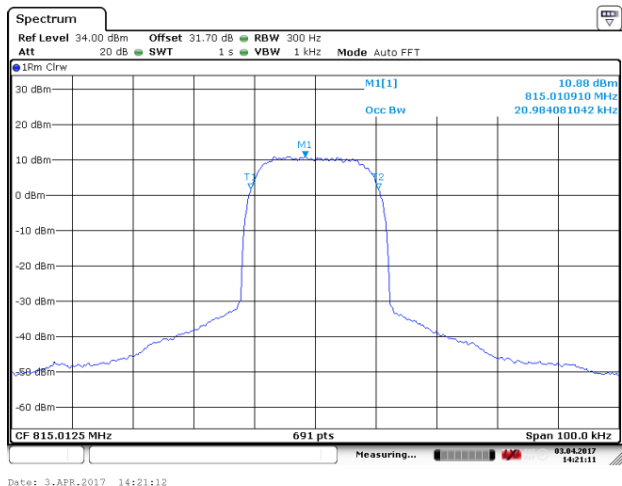
Low Frequency: 806.0125MHz, Output occupied BW(ALC)



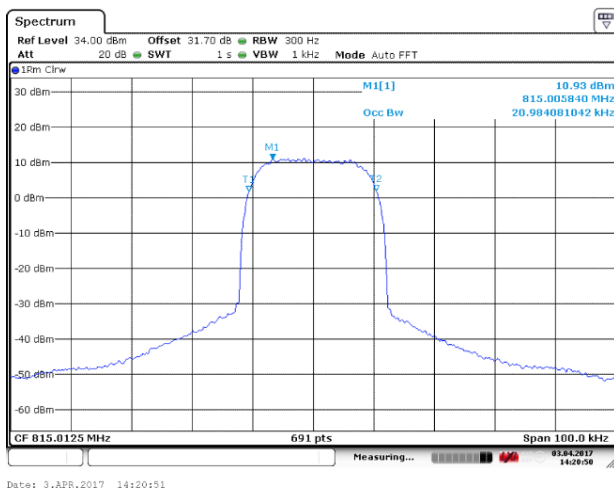
Low Frequency: 806.0125MHz, Output occupied BW (with the input signal amplitude set 3 dB above the ALC threshold)



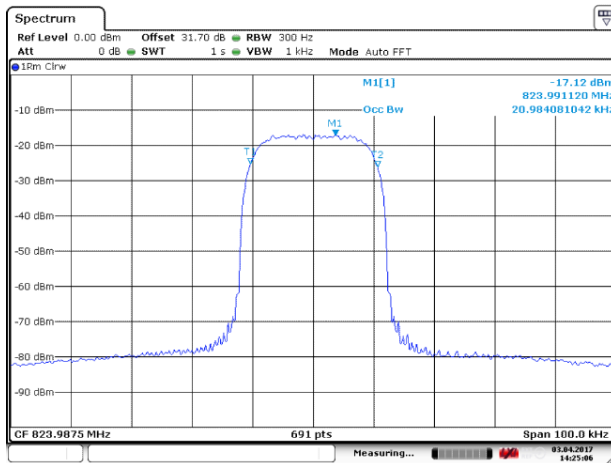
Mid Frequency: 815.0125MHz, Input occupied BW



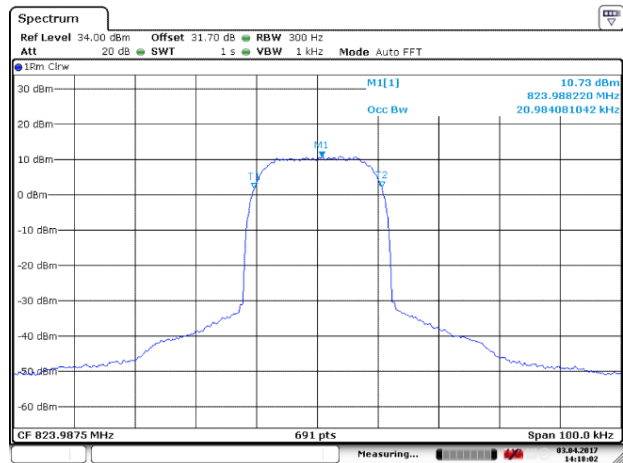
Mid Frequency: 815.0125MHz, Output occupied BW (ALC)



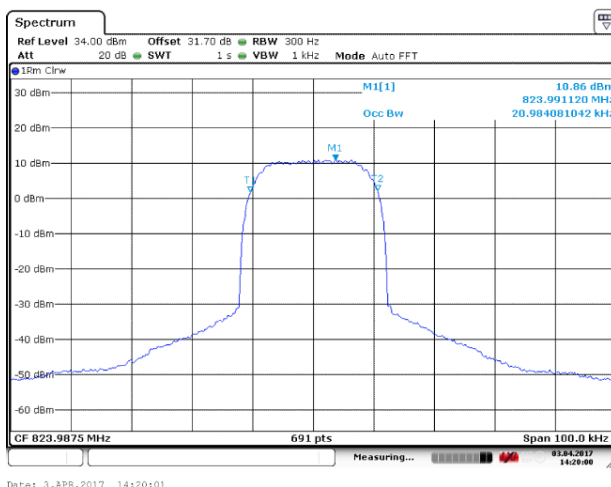
Mid Frequency: 815.0125MHz, Output occupied BW (with the input signal amplitude set 3 dB above the ALC threshold)



Date: 3.APR.2017 14:25:07



Date: 3.APR.2017 14:18:03

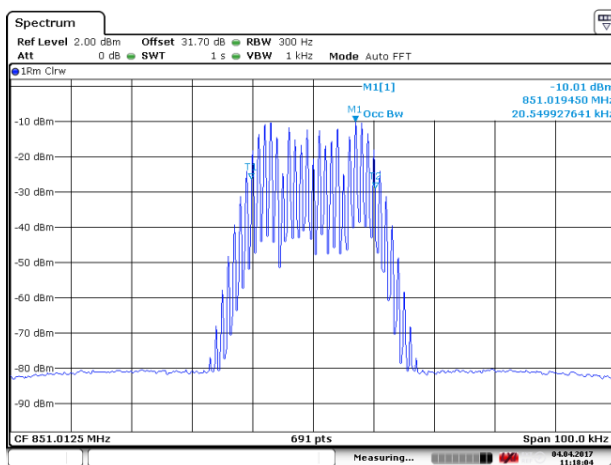


Date: 3.APR.2017 14:20:01

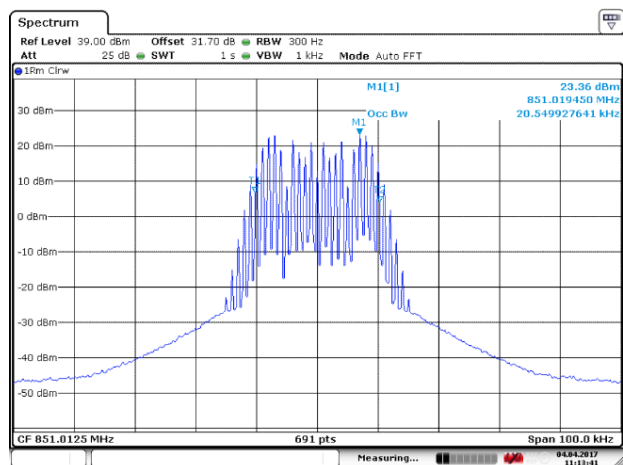
High Frequency: 823.9875MHz, Output occupied BW(with the input signal amplitude set 3 dB above the ALC threshold)

6.2.5.2.3 Modulation signal: Analog FM(10kHz/1kHz)

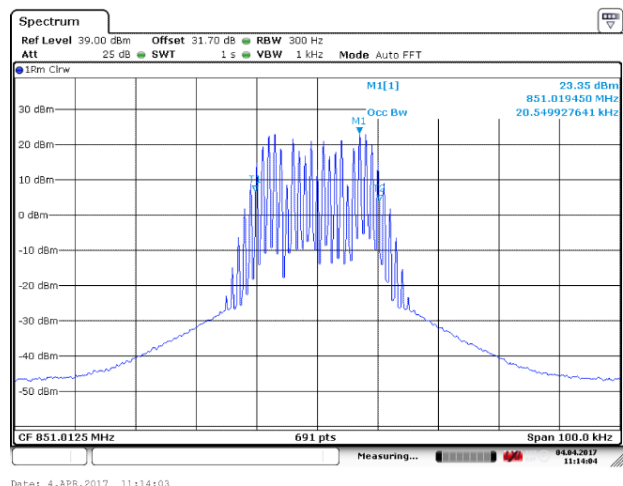
(1) Downlink



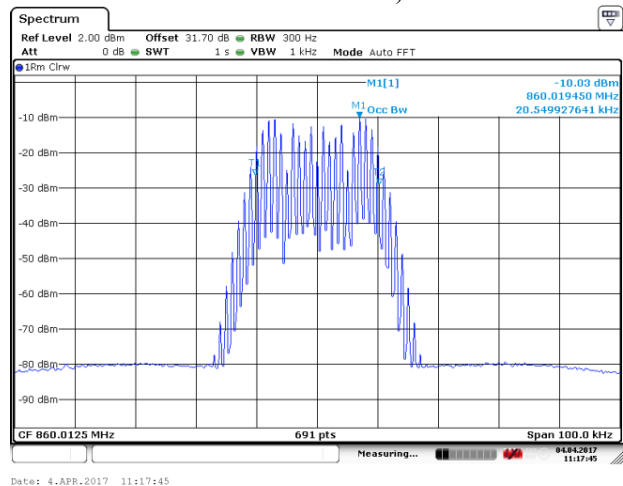
Date: 4.APR.2017 11:18:04



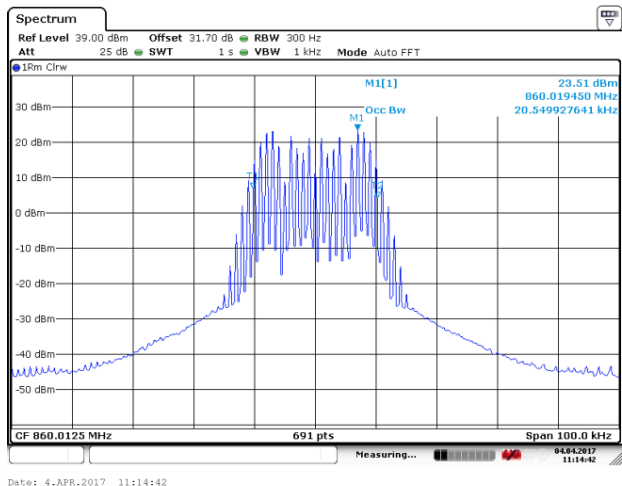
Date: 4.APR.2017 11:13:41



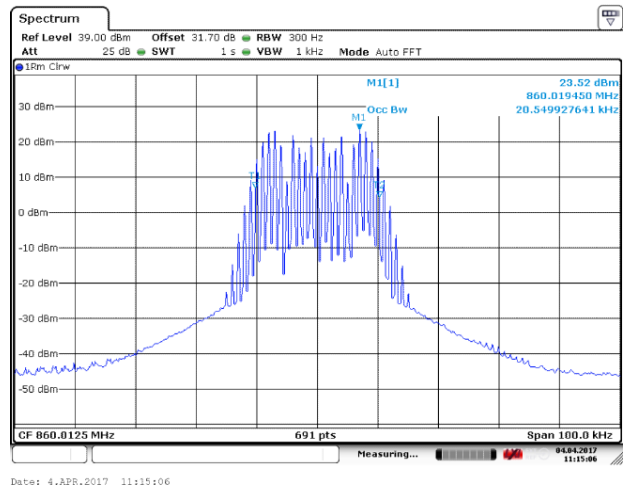
Low Frequency: 851.0125MHz, Output occupied BW(with the input signal amplitude set 3 dB above the ALC threshold)



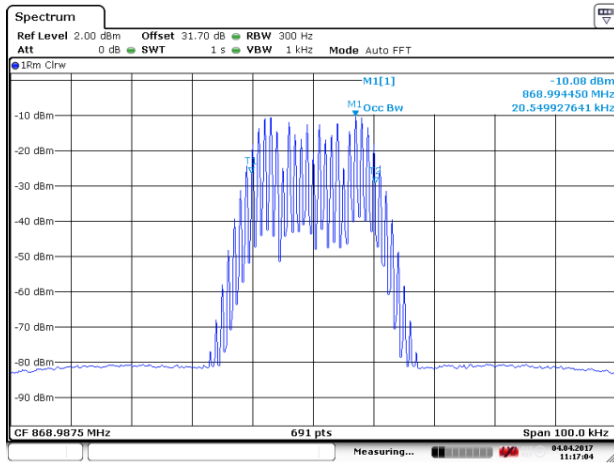
Mid Frequency: 860.0125MHz, Input occupied BW



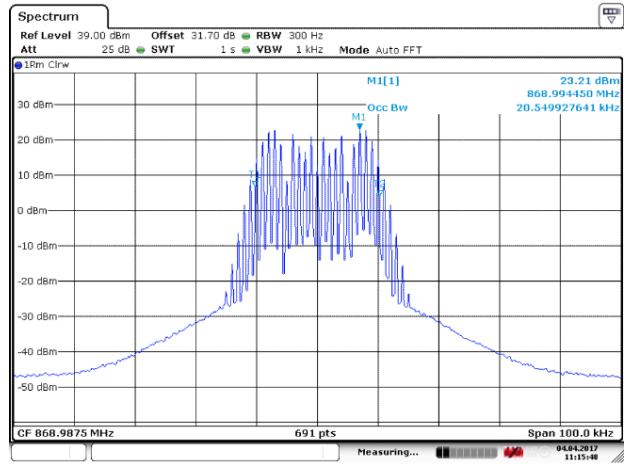
Mid Frequency: 860.0125MHz, Output occupied BW(ALC)



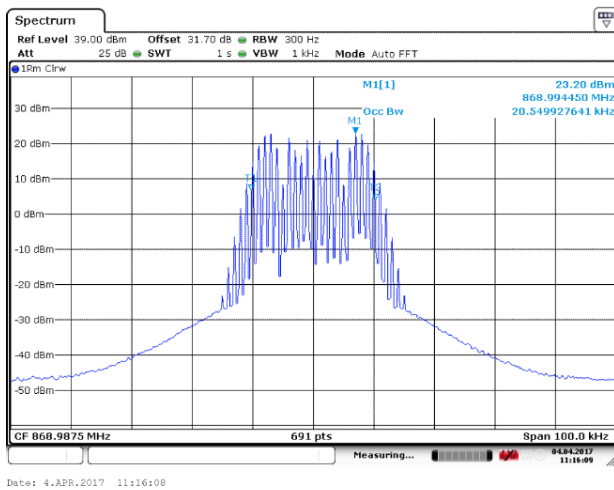
Mid Frequency: 860.0125MHz, Output occupied BW(with the input signal amplitude set 3 dB above the ALC threshold)



High Frequency: 868.9875MHz, Input occupied BW

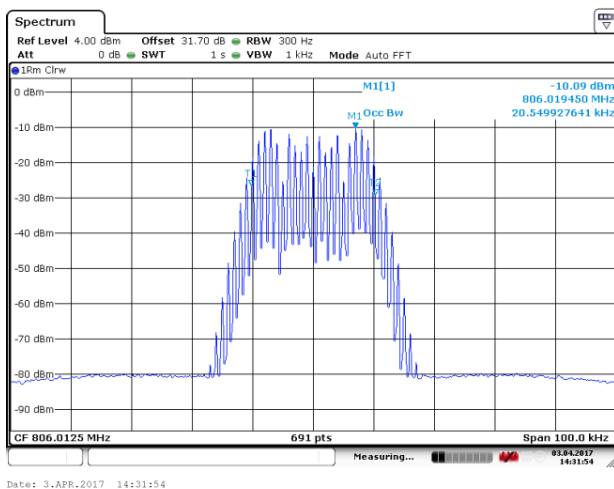


High Frequency: 868.9875MHz, Output occupied BW(ALC)

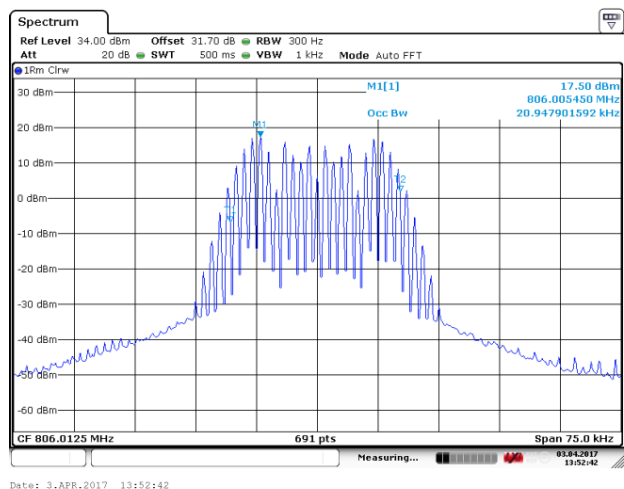


High Frequency: 868.9875MHz, Output occupied BW(with the input signal amplitude set 3 dB above the ALC threshold)

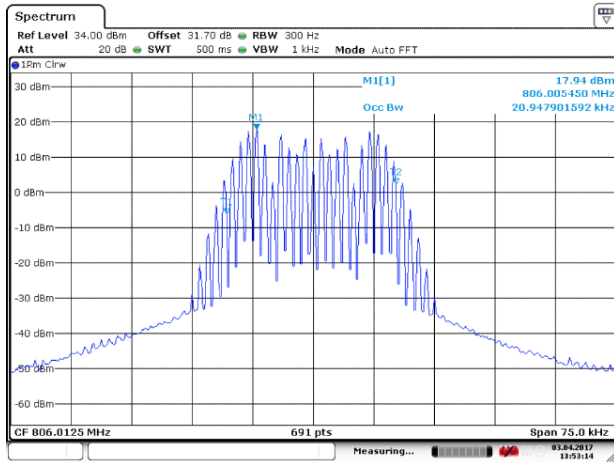
(2) Uplink



Low Frequency: 806.0125MHz, Input occupied BW

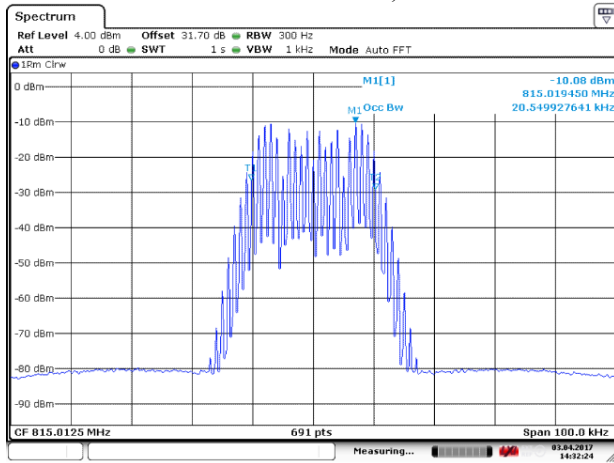


Low Frequency: 806.0125MHz, Output occupied BW(ALC)



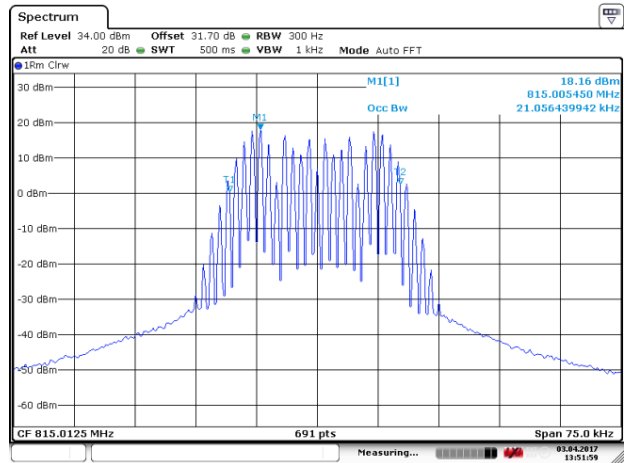
Date: 3.APR.2017 13:53:14

Low Frequency: 806.0125MHz, Output occupied BW(with the input signal amplitude set 3 dB above the ALC threshold)



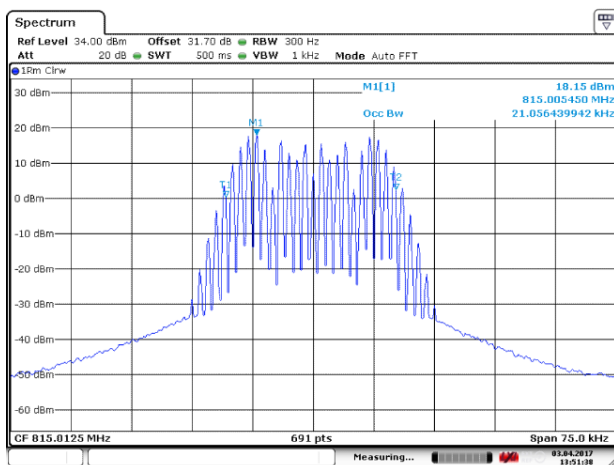
Date: 3.APR.2017 14:32:25

Mid Frequency: 815.0125MHz, Input occupied BW



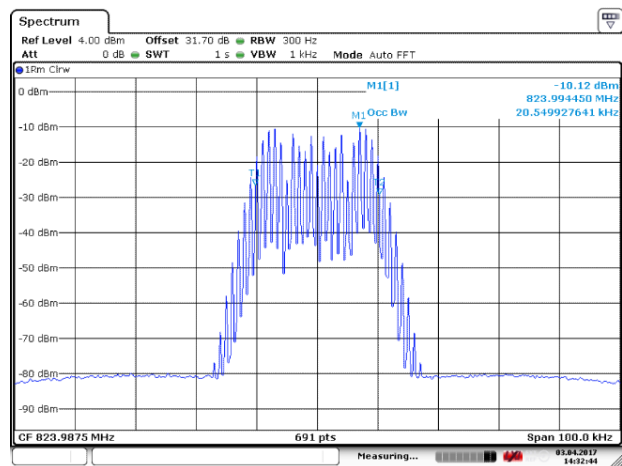
Date: 3.APR.2017 13:52:00

Mid Frequency: 815.0125MHz, Output occupied BW(ALC)

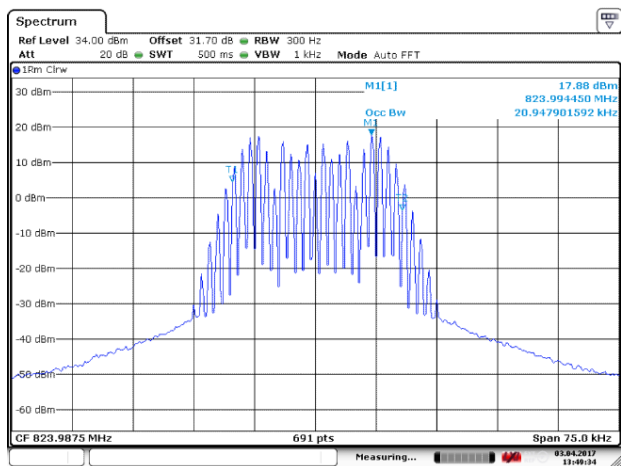


Date: 3.APR.2017 13:51:38

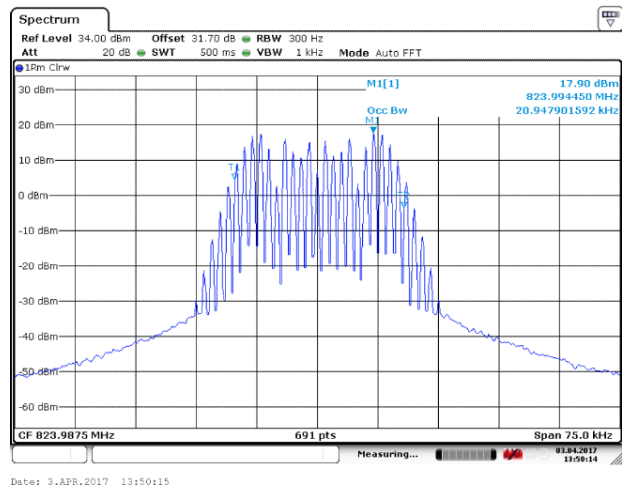
Mid Frequency: 815.0125MHz, Output occupied BW(with the input signal amplitude set 3 dB above the ALC threshold)



High Frequency: 823.9875MHz, Input occupied BW



High Frequency: 823.9875MHz, Output occupied BW(ALC)



High Frequency: 823.9875MHz, Output occupied BW(with the input signal amplitude set 3 dB above the ALC threshold)

6.3 Emission mask

Test Date (yy-mm-dd): 2017-04-12 to 2017-04-15

Test environment: Normal

Ambient Temp 23.8°C~28.1°C, Humid 44%~59%, Atmospheric Pressure 101kpa

Power supply: AC 120V 50/60Hz

Test Method: FCC part 2. 1047& FCC part 2. 1051 & KDB 935210 D05 Indus Booster Basic Meas v01r01

Test Requirement: FCC part 90.210(b)

6.3.1 Limit

Except as indicated else where in this part, transmitters used in the radio services governed by this part must comply with the emission masks outlined in this section. measurements of emission power can be expressed in either peak or average values provided that emission powers are expressed with the same parameters used to specify the unmodulated transmitter carrier power. For transmitters that do not produce a full power unmodulated carrier, reference to the unmodulated transmitter carrier power refers to the total power contained in the channel bandwidth. Unless indicated elsewhere in this part, the table in this section specifies the emission masks for equipment operating under this part.

This test was performed to measure Emission mask in table 3. Specification test limits are given in table 4, table 5, table 6 and table 7.

Table 3 Applicable Emission Masks

Frequency band (MHz)	Mask for equipment with audio low pass filter	Mask for equipment without audio low pass filter
806-809/851-854	B	H
809-824/854-869	B	G
All other bands	B	C

Table 4 Emission Masks limit(Emission mask B)

Frequency displacement from carrier(kHz)	Attenuation below carrier
C4FM Modulation: Channel bandwidth 12.5kHz, authorized bandwidth 8kHz with audio low pass filter	
0 ~4.0	0 dB
4.0 ~ 8.0	25.0 dB
8.0 ~ 20.0	35.0 dB
More than 20.0	43+10logP(W) dB

Tetra modulation: Channel bandwidth 25kHz, authorized bandwidth 20kHz with audio low pass filter	
0 ~10.0	0 dB
10.0 ~ 20.0	25.0 dB
20.0 ~ 50.0	35.0 dB
More than 50.0	$43+10\log P(W)$ dB
Analog FM(10kHz/1kHz) modulation: Channel bandwidth 25kHz, authorized bandwidth 23kHz with audio low pass filter	
0 ~11.5	0 dB
11.5 ~ 23.0	25.0 dB
23.0 ~ 57.5	35.0 dB
More than 57.5	$43+10\log P(W)$ dB
LTE modulation: Channel bandwidth 10MHz, authorized bandwidth 10MHz with audio low pass filter	
0 MHz ~5MHz	0
5MHz ~ 10MHz	25.0 dB
10MHz ~ 25MHz	35.0 dB
More than 25MHz	$43+10\log P(W)$ dB

Table 5 Emission Masks limit (Emission mask C, Only 700MHz Band)

Frequency displacement from carrier(kHz)	Attenuation below carrier
C4FM Modulation: Channel bandwidth 12.5kHz, authorized bandwidth 8kHz without audio low pass filter	
0 ~5.0	0
5.0 ~ 10.0	$83*\log (fd/5)$ dB
10.0 ~ 20.0	$29*\log (fd^2/11)$ dB
More than 20.0	$43+10\log P(W)$ dB
Note: fd mean to Frequency displacement from carrier.	

Table 6 Emission Masks limit (Emission mask H, Only 806~809MHz/851~854MHz)

Frequency displacement from carrier(kHz)	Attenuation below carrier(dB)
C4FM Modulation: Channel bandwidth 12.5kHz, authorized bandwidth 8kHz without audio low pass filter	
0 ~4.0	0 dB
4.0 ~ 8.5	$107*\log (fd/4)$ dB
8.5 ~15.0	$40.5*\log (fd/1.16)$ dB
15.0 ~25.0	$116*\log (fd/6.1)$ dB
More than 25.0	$43+10\log P(W)$ dB
Note: fd mean to Frequency displacement from carrier.	

Table 7 Emission Masks limit (Emission mask G, Only 809~824MHz/854~869MHz)

Frequency displacement from carrier(kHz)	Attenuation below carrier(dB)
Analog FM(10kHz/1kHz) modulation: Channel bandwidth 25kHz, authorized bandwidth 23kHz without audio low pass filter	
0 ~10.0	0
10.0 ~ 50.0	$50+10*\log P(W)$ dB
More than 50.0	$43+10\log P(W)$ dB
Note: fd mean to Frequency displacement from carrier.	

Note : This equipment is a equipment with audio low pass filter.

- (1) RF channels to be tested for single-carrier: B, M and T.
- (2) Modulation types are C4FM, Tetra , Analog FM(10kHz/1kHz) and LTE.
- (3) Modulation envelope reference points are provided in terms of attenuation below the unmodulated carrier.
- (4) Emission mask includes carrier modulation envelope within $\pm 250\%$ of the authorized bandwidth. The frequency range removed beyond $\pm 250\%$ of the authorized bandwidth from carrier was investigated as spurious emission.

6.3.2 Test configuration

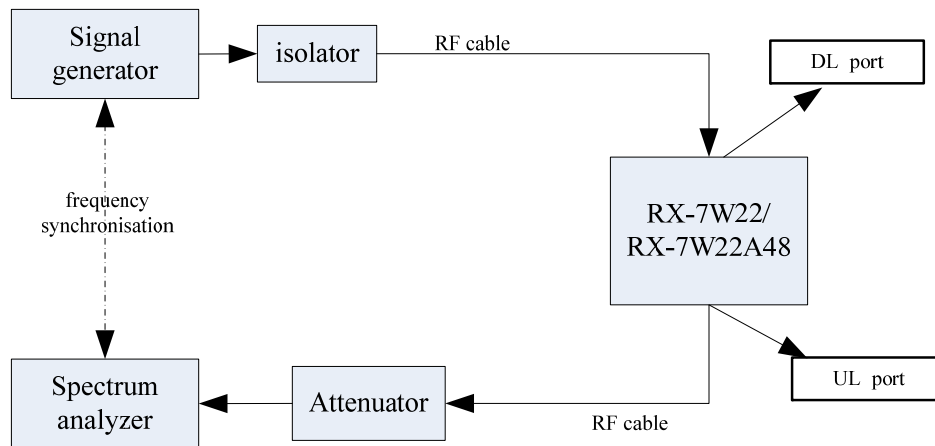


Figure 5: Emission mask arrangement for Downlink

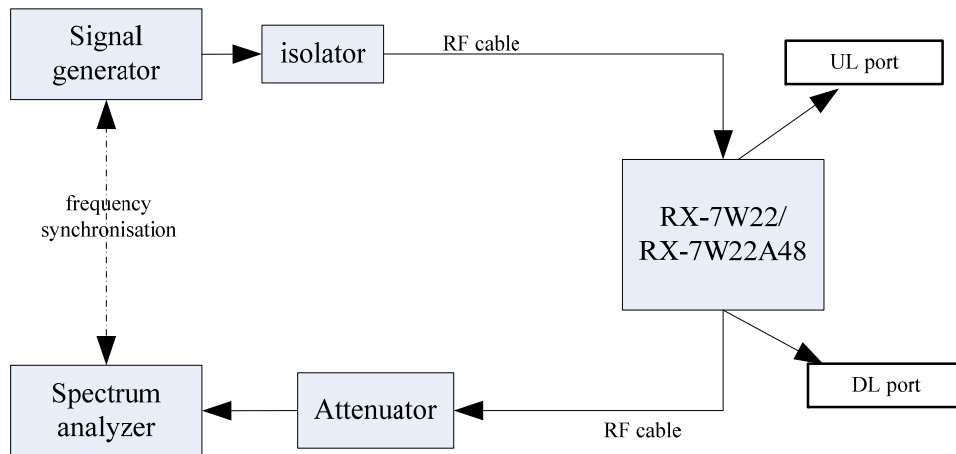


Figure 6: Emission mask arrangement for Uplink

6.3.3 Test procedures

- (1) Connect the equipment as illustrated Figure 5 and Figure 6, when the output power is over the maximum value of the Spectrum Analyzer, add the attenuator to avoid destroying.
- (2) Configure the signal generator to transmit the appropriate test signal associated with the public safety emission designation.
- (3) Configure the signal frequency to centre frequency and the signal level to be just below the ALC threshold and maximum gain.
- (4) Connect a spectrum analyzer to the output of the EUT using appropriate attenuation as necessary;
- (5) Set the spectrum analyzer center frequency to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be between 2 times to 5 times the OBW;
- (6) The nominal RBW shall be 100 Hz for 12.5kHz channel and 300 Hz for 25kHz channel and 100kHz for LTE(10MHz channel);
- (7) Set the reference level of the spectrum analyzer to accommodate the maximum input amplitude level;
- (8) Set spectrum analyzer detection mode to Peak, and trace mode to Avg;
- (9) Confirm that the signal is contained within the appropriate emissions mask;
- (10) Measure the emission Mask according to Table 3 at the specified frequencies with specified measurement bandwidth and note that the measured value does not exceed the specified value;
- (11) Repeat RF channels to be tested for single-carrier: Low and High frequency;

6.3.4 Test Results**6.3.4.1 700MHz Band****6.3.4.1.1 Modulation signal: LTE**

Resolution Bandwidth: 100 kHz
 Configuration: Single Band
 Operating frequency range: Downlink: 758MHz~768MHz
 Uplink: 788MHz~798MHz

Carrier frequency(MHz)	Limit	Result
Downlink transmit mode		
Mid frequency: 763.0	Mask B	pass
Uplink transmit mode		
Mid frequency: 793.0	Mask B	pass

6.3.4.1.2 Modulation signal: C4FM

Resolution Bandwidth: 100 Hz
 Video Bandwidth: 300 Hz
 Detector mode: Peak
 Trace mode: Average
 Symbol Rate: 4.8ksps
 Configuration: Single Band
 Operating frequency range: Downlink: 769MHz~775MHz
 Uplink: 799MHz~805MHz

Carrier frequency(MHz)	Limit	Result
Downlink transmit mode		
Low frequency: 769.00625	Mask B & C	pass
Mid frequency: 772.00625	Mask B & C	pass
High frequency: 774.99375	Mask B & C	pass
Uplink transmit mode		
Low frequency: 799.00625	Mask B & C	pass
Mid frequency: 802.00625	Mask B & C	pass
High frequency: 804.99375	Mask B & C	pass

6.3.4.1.3 Modulation signal: Tetra

Resolution Bandwidth: 300 Hz
 Video Bandwidth: 1 kHz
 Detector mode: Peak

Trace mode: Average
 Symbol Rate: 18ksps
 Configuration: Single Band
 Operating frequency range: Downlink: 769MHz~775MHz
 Uplink: 799MHz~805MHz

Carrier frequency(MHz)	Limit	Result
Downlink transmit mode		
Low frequency: 769.0125	Mask B	pass
Mid frequency: 772.0125	Mask B	pass
High frequency: 774.9875	Mask B	pass
Uplink transmit mode		
Low frequency: 799.0125	Mask B	pass
Mid frequency: 802.0125	Mask B	pass
High frequency: 804.9875	Mask B	pass

6.3.4.1.4 Modulation signal: Analog FM(10kHz/1kHz)

Resolution Bandwidth: 300 Hz
 Video Bandwidth: 1 kHz
 Detector mode: Peak
 Trace mode: Average
 Symbol Rate: 1ksps
 Frequency Dev: 10kHz
 Configuration: Single Band
 Operating frequency range: Downlink: 769MHz~775MHz
 Uplink: 799MHz~805MHz

Carrier frequency(MHz)	Limit	Result
Downlink transmit mode		
Low frequency: 769.0125	Mask B	pass
Mid frequency: 772.0125	Mask B	pass
High frequency: 774.9875	Mask B	pass
Uplink transmit mode		
Low frequency: 799.0125	Mask B	pass
Mid frequency: 802.0125	Mask B	pass
High frequency: 804.9875	Mask B	pass

6.3.4.2 800MHz Band

6.3.4.2.1 Modulation signal: C4FM

Resolution Bandwidth:	100 Hz
Video Bandwidth:	300 Hz
Detector mode:	Peak
Trace mode:	Average
Symbol Rate:	4.8ksps
Configuration:	Single Band
Operating frequency range:	Downlink: 851MHz~869MHz Uplink:806MHz~824MHz

Carrier frequency(MHz)		Limit	Result
Downlink transmit mode			
851~854	Low frequency: 851.00625	Mask B & H	pass
	Mid frequency: 852.50625	Mask B & H	pass
	High frequency: 853.99375	Mask B & H	pass
Uplink transmit mode			
806~809	Low frequency: 806.00625	Mask B & H	pass
	Mid frequency: 807.50625	Mask B & H	pass
	High frequency: 808.99375	Mask B & H	pass

6.3.4.2.2 Modulation signal: Tetra

Resolution Bandwidth:	300 Hz
Video Bandwidth:	1 kHz
Detector mode:	Peak
Trace mode:	Average
Symbol Rate:	18ksps
Configuration:	Single Band
Operating frequency range:	Downlink: 851MHz~869MHz Uplink:806MHz~824MHz

Carrier frequency(MHz)		Limit	Result
Downlink transmit mode			
854~869	Low frequency: 854.0125	Mask B & G	pass
	Mid frequency: 861.5125	Mask B & G	pass
	High frequency: 868.9875	Mask B & G	pass
Uplink transmit mode			
809~824	Low frequency: 809.0125	Mask B & G	pass

	Mid frequency: 816.5125	Mask B & G	pass
	High frequency: 823.9875	Mask B & G	pass

6.3.4.2.3 Modulation signal: Analog FM(10kHz/1kHz)

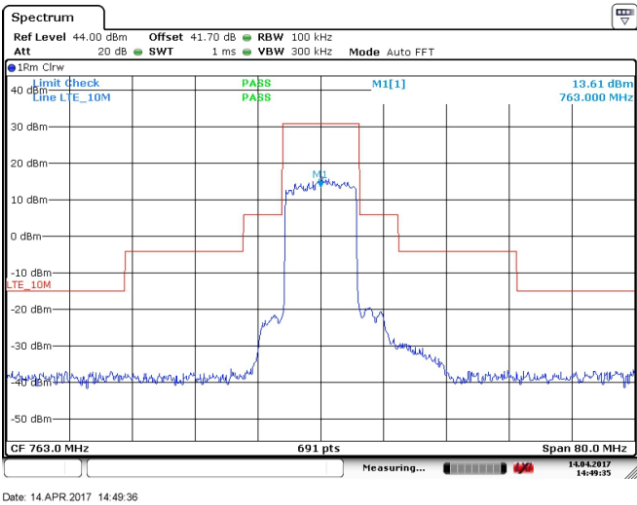
Resolution Bandwidth:	300 Hz
Video Bandwidth:	1 kHz
Detector mode:	Peak
Trace mode:	Average
Symbol Rate:	1ksps
Frequency Dev:	10kHz
Configuration:	Single Band
Operating frequency range:	Downlink: 851MHz~869MHz Uplink:806MHz~824MHz

Carrier frequency(MHz)		Limit	Result
Downlink transmit mode			
854~869	Low frequency: 854.0125	Mask B & G	pass
	Mid frequency: 861.5125	Mask B & G	pass
	High frequency: 868.9875	Mask B & G	pass
Uplink transmit mode			
809~824	Low frequency: 809.0125	Mask B & G	pass
	Mid frequency: 816.5125	Mask B & G	pass
	High frequency: 823.9875	Mask B & G	pass

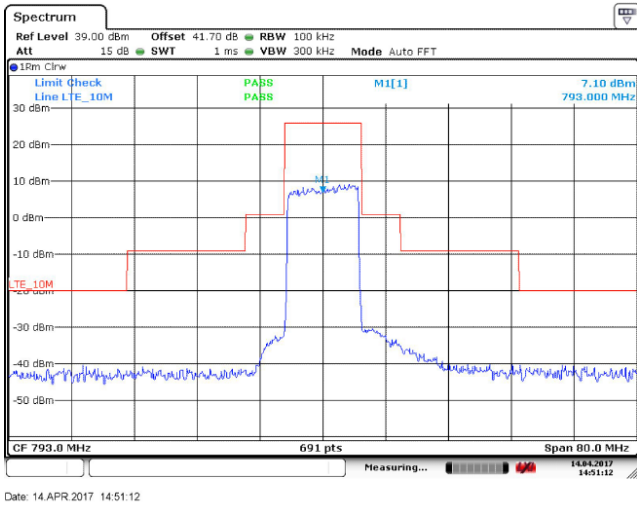
6.3.5 Test screenshot

6.3.5.1 700MHz Band

6.3.5.1.1 Modulation signal: LTE



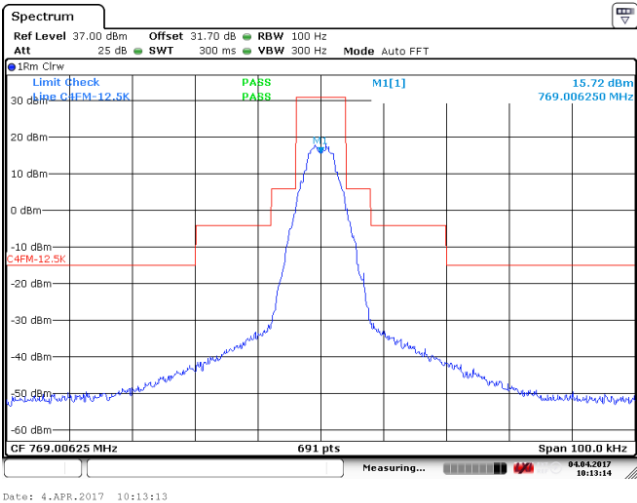
Downlink: 763.0MHz



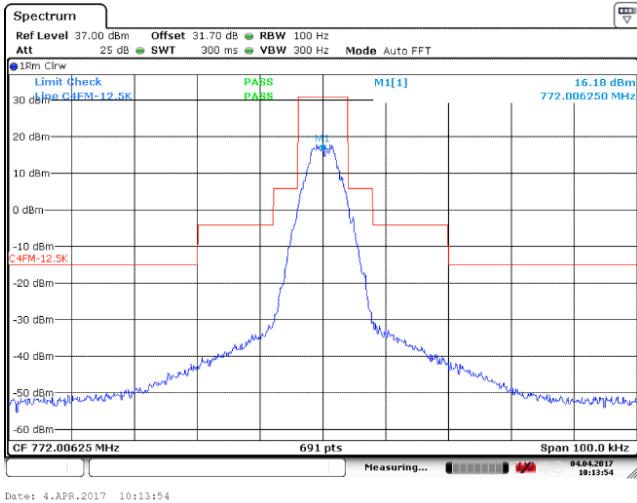
Uplink: 793.0MHz

6.3.5.1.2 Modulation signal: C4FM

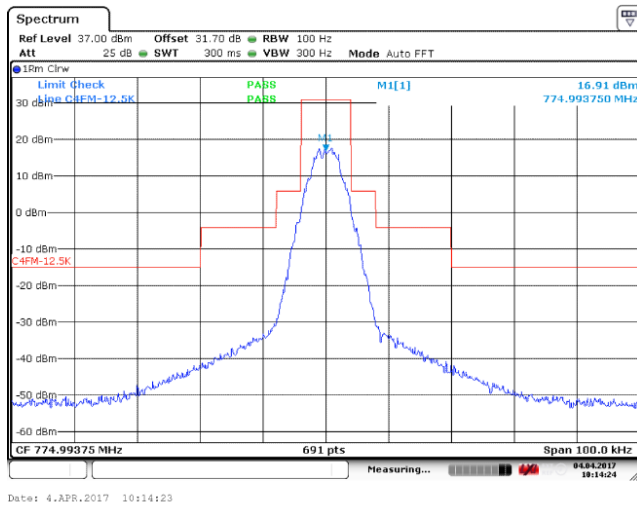
(1) Downlink



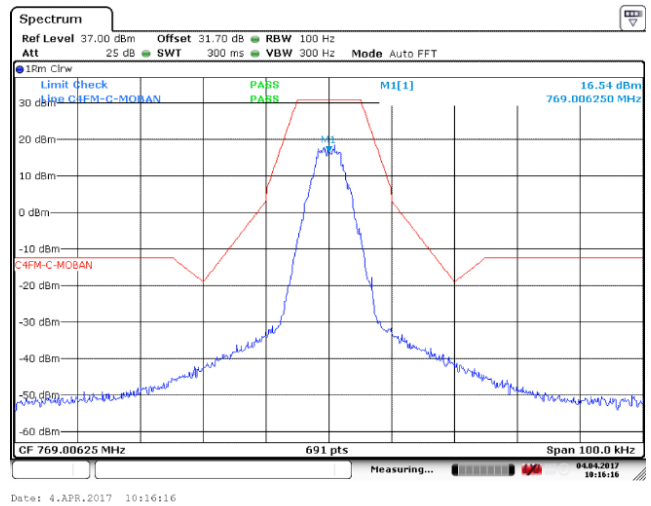
Low Frequency: 769.00625MHz (Mask B)



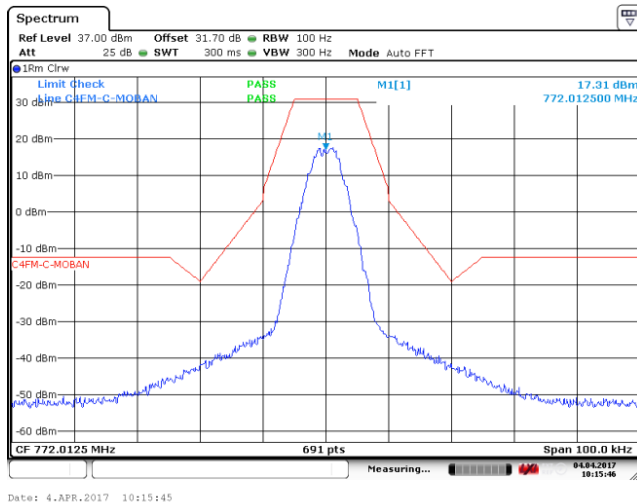
Mid Frequency: 772.00625MHz (Mask B)



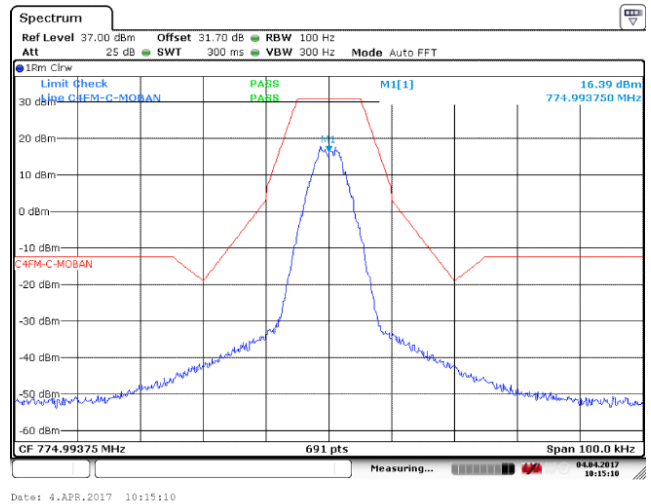
High Frequency: 774.99375MHz (Mask B)



Low Frequency: 769.00625MHz (Mask C)

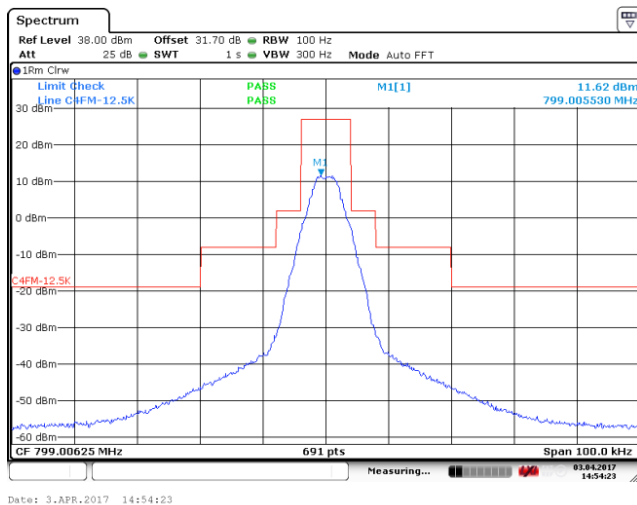


Mid Frequency: 772.00625MHz (Mask C)

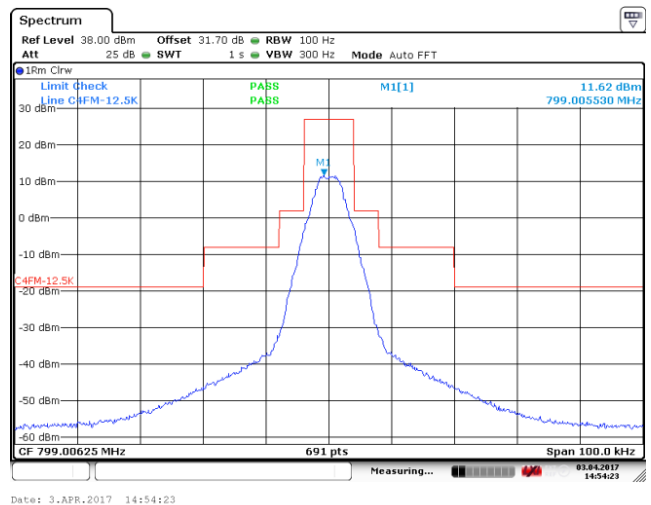


High Frequency: 774.99375MHz (Mask C)

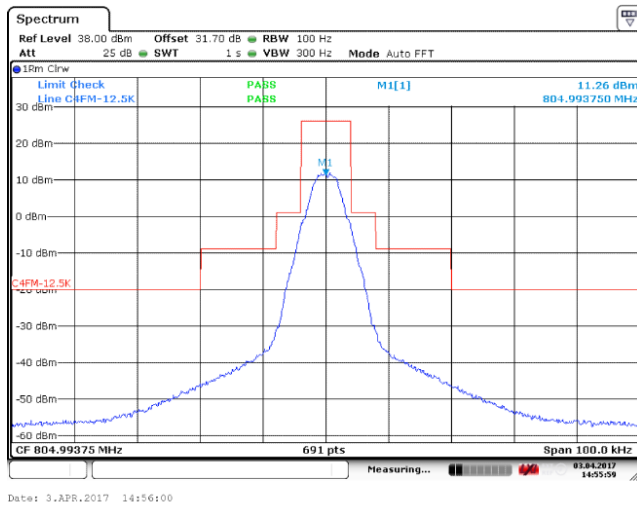
(2) Uplink



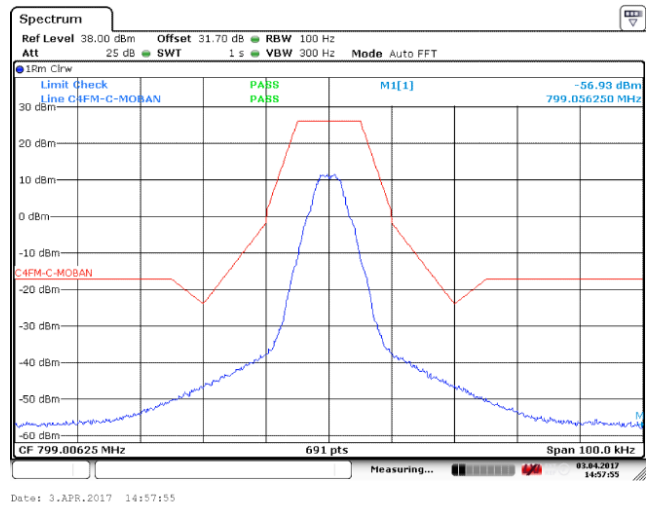
Low Frequency: 799.00625MHz (Mask B)



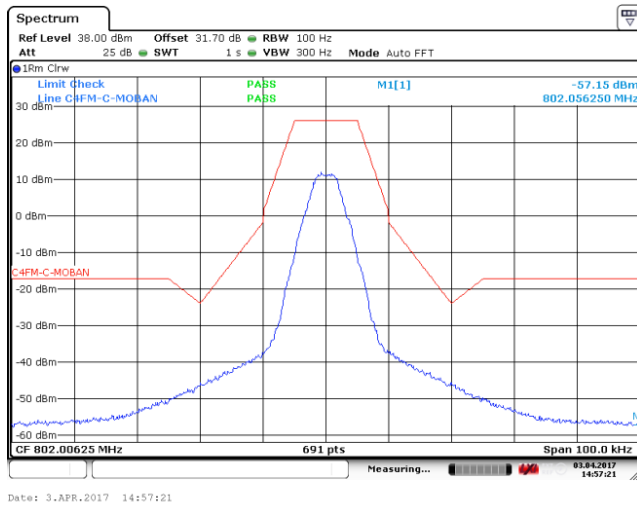
Mid Frequency: 802.00625MHz (Mask B)



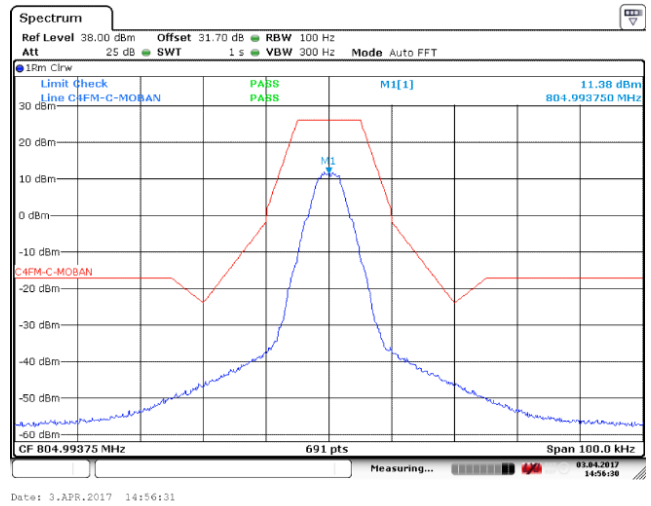
High Frequency: 804.99375MHz (Mask B)



Low Frequency: 799.00625MHz (Mask C)



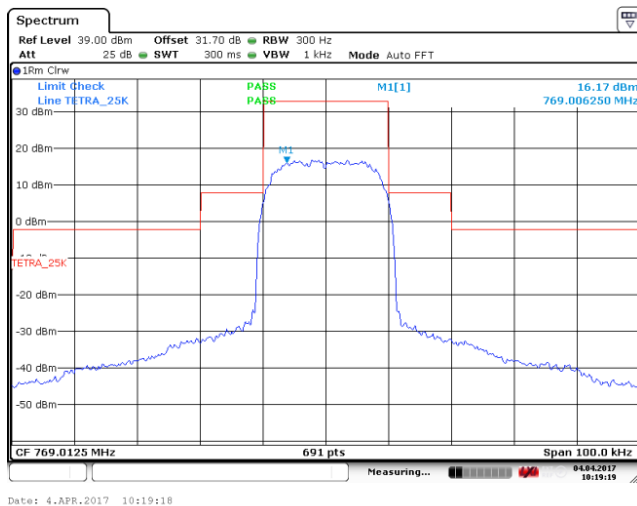
Mid Frequency: 802.00625MHz (Mask C)



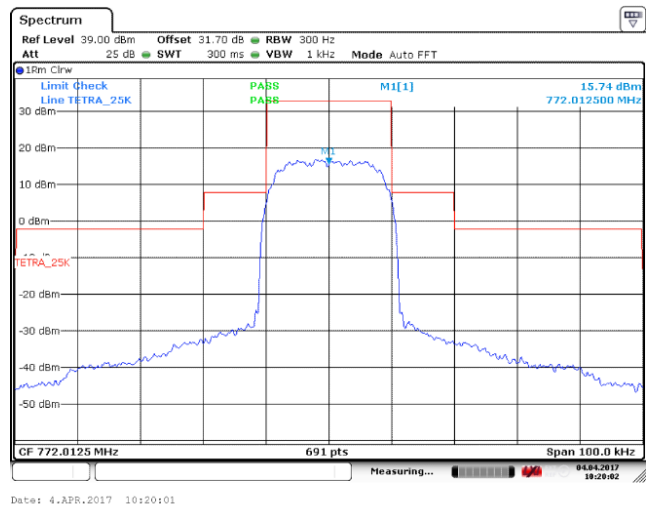
High Frequency: 804.99375MHz (Mask C)

6.3.5.1.3 Modulation signal: Tetra

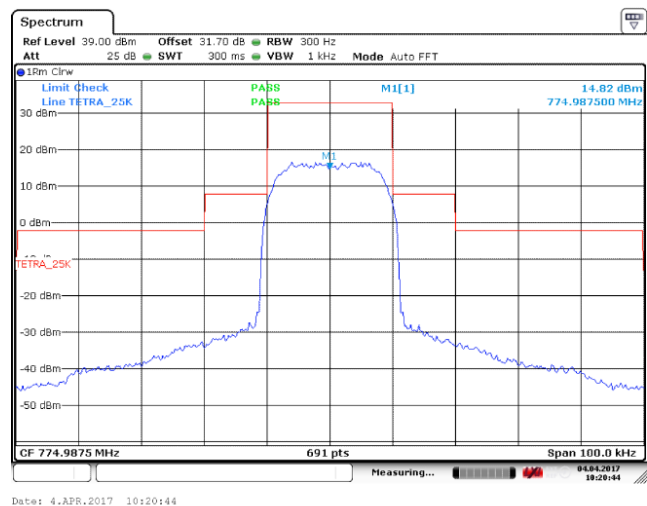
(1) Downlink



Low Frequency: 769.0125MHz (Mask B)

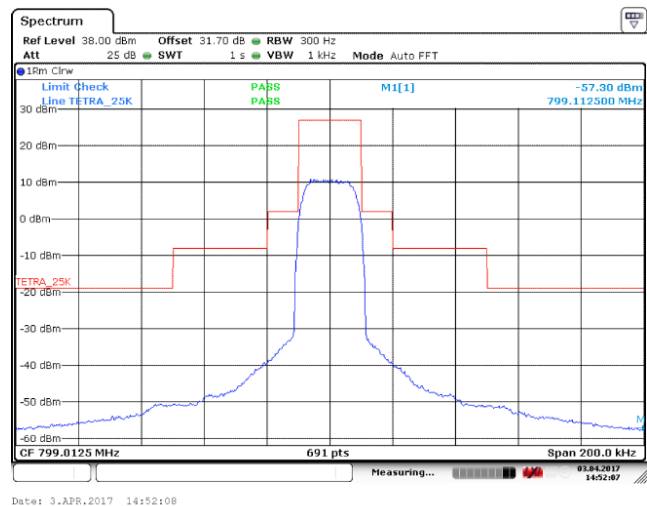


Mid Frequency: 772.0125MHz (Mask B)

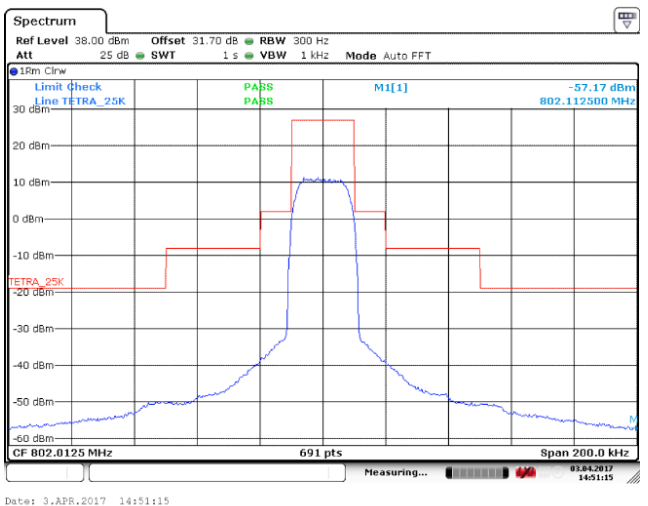


High Frequency: 774.9875MHz(Mask B)

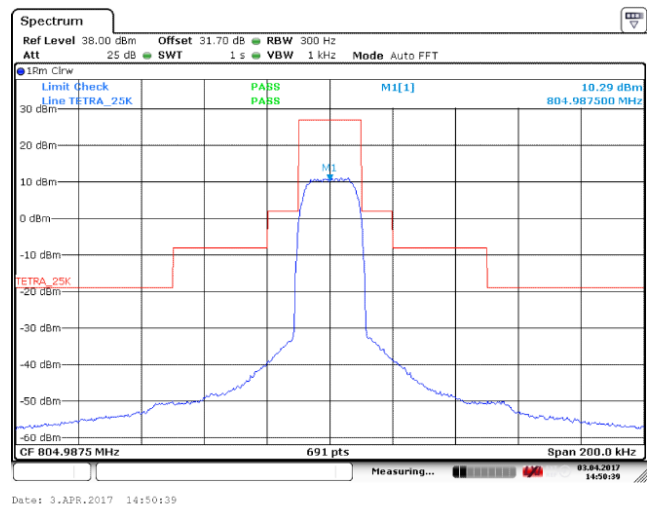
(2) Uplink



Low Frequency: 799.0125MHz(Mask B)



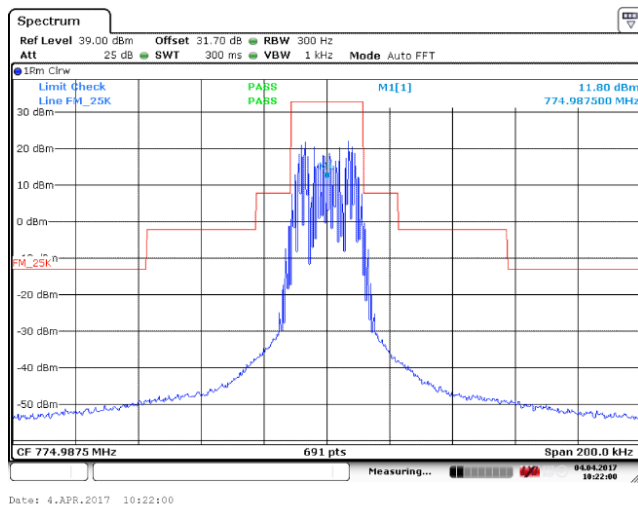
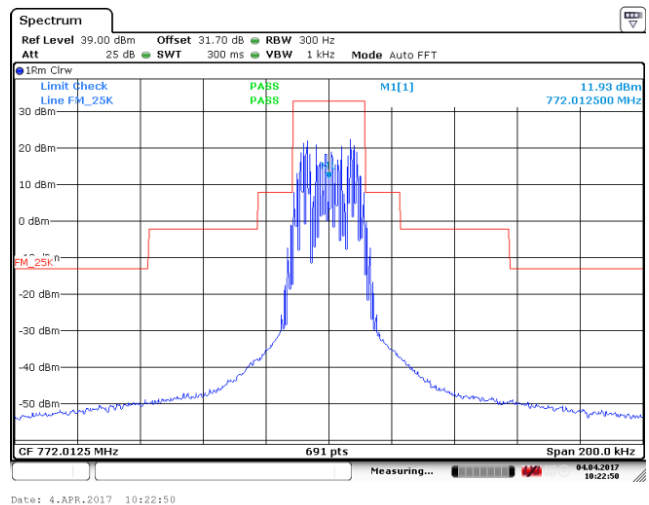
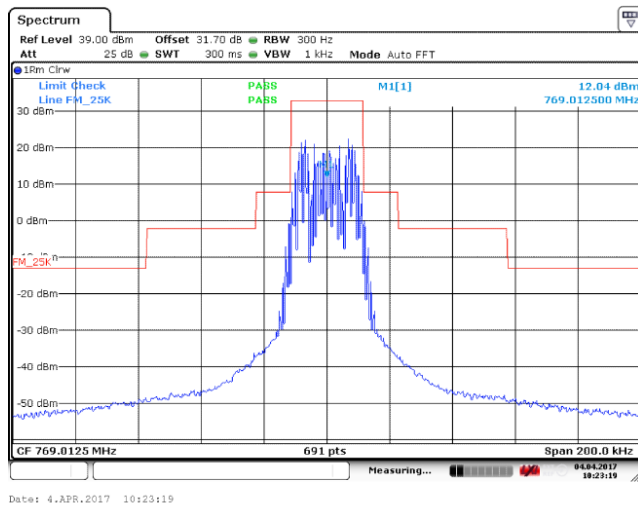
Mid Frequency: 802.0125MHz(Mask B)



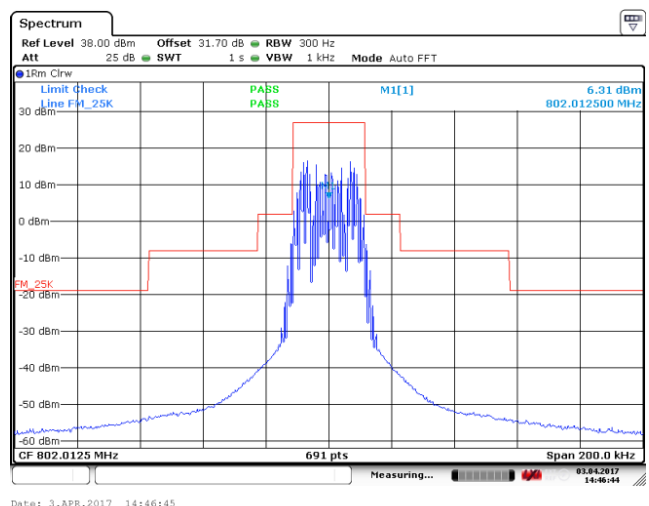
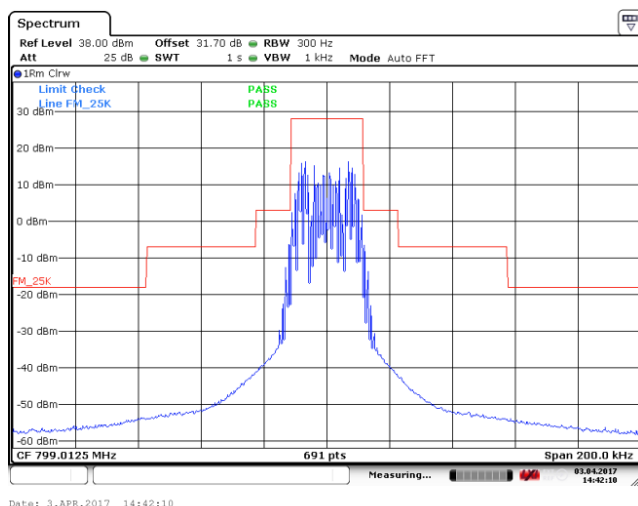
High Frequency: 804.9875MHz(Mask B)

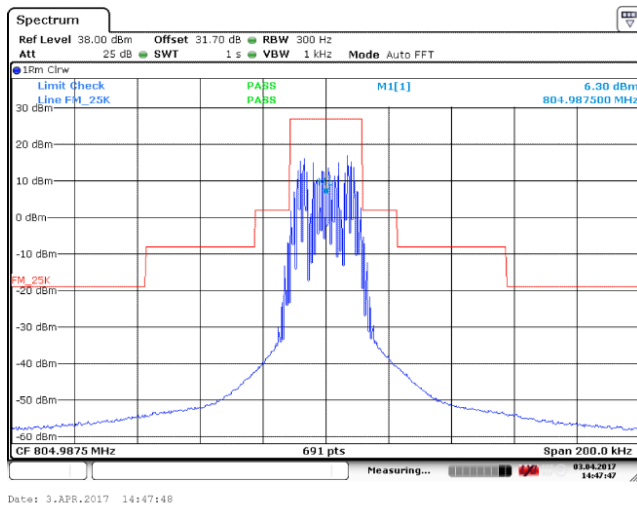
6.3.5.1.4 Modulation signal: Analog FM(10kHz/1kHz)

(1) Downlink



(2) Uplink



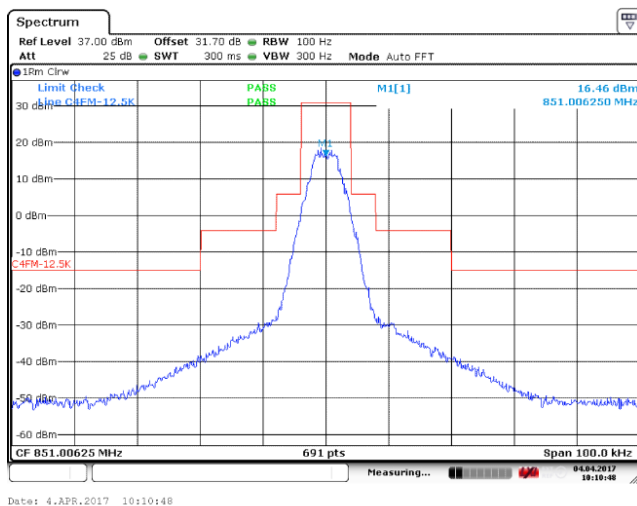


High Frequency: 804.9875MHz(Mask B)

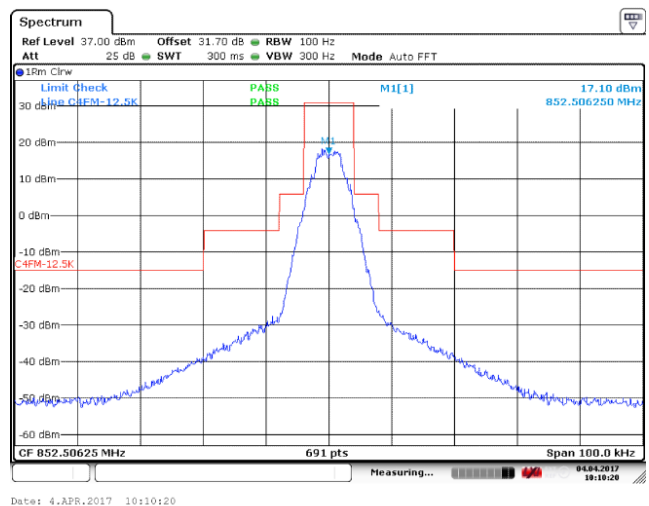
6.3.5.2 800MHz Band

6.3.5.2.1 Modulation signal: C4FM

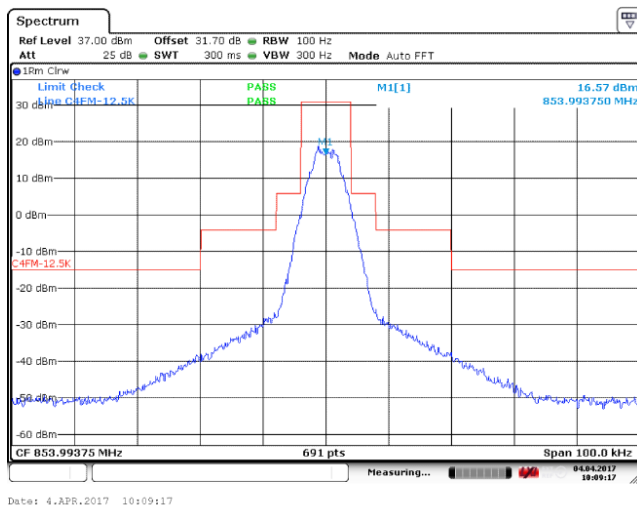
(1) Downlink



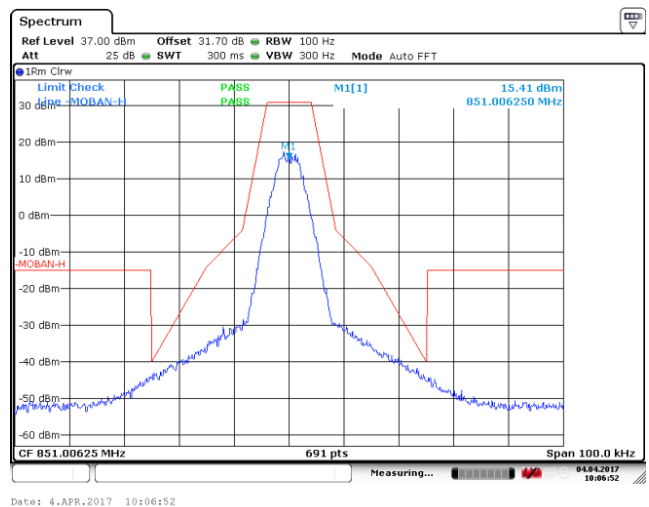
Low Frequency: 851.00625MHz (Mask B)



Mid Frequency: 852.50625MHz(Mask B)



High Frequency: 853.99375MHz(Mask B)



Low Frequency: 851.00625MHz (Mask H)