APPENDIX D DUTY CYCLE OF TEST SIGNAL FOR 5MHz BANDWIDTH

Summary measured result of signal duty cycle measurement:

Channel BW	UL zone type / DL/UL symbols	modulation	Measured Duty Cycle(%)		
			Channel		
			Low	Mid	High
5MHz	PUSC / 29/18	QPSK-1/2	31.2	31.2	31
		QPSK-3/4	31.2	31	31.2
		16QAM-1/2	31.2	31.2	31.2
		16QAM-3/4	31.2	31.2	31

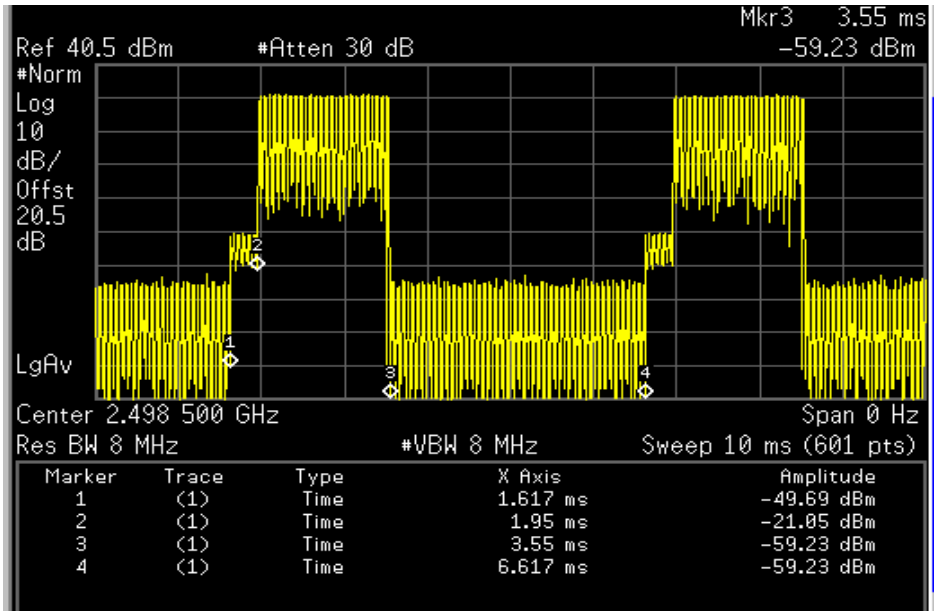
Calculation of Duty cycle (UL : DL ratio of test signal is 18:29)

2 plots are measured for duty cycle to each condition shown on above summary table

Plot 1 is used to get the burst length of test signal.

Burst length = Mark 4 – Mark 1

Plot 1

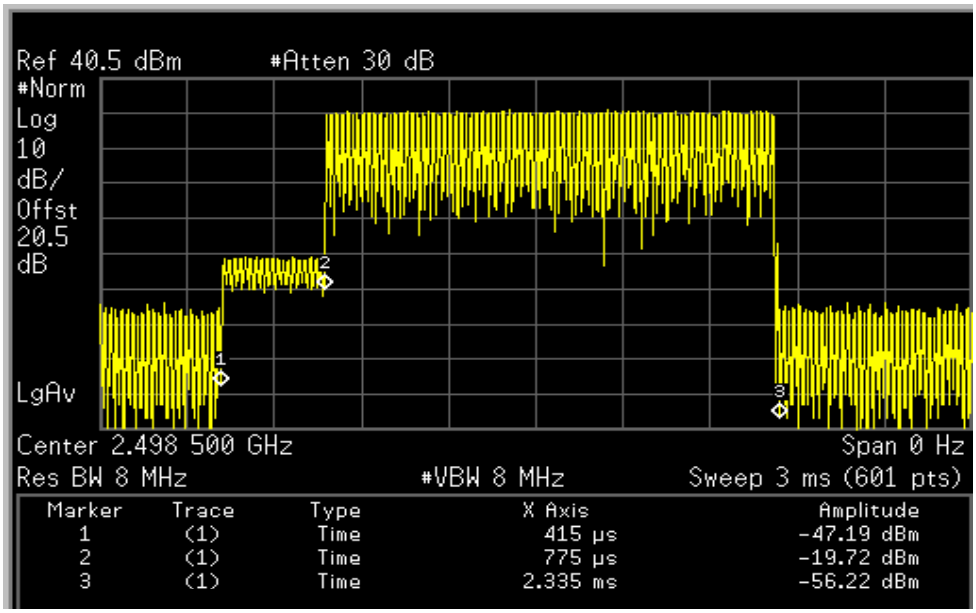


Plot 2 is used to get the UL time of test signal.

Mark 2 – Mark1 = First 3 symbols UL time

Mark 3 – Mark 2 =15 symbols UL time

Plot 2



Per KDB 615223 , the first 3 symbols UL time is ignored

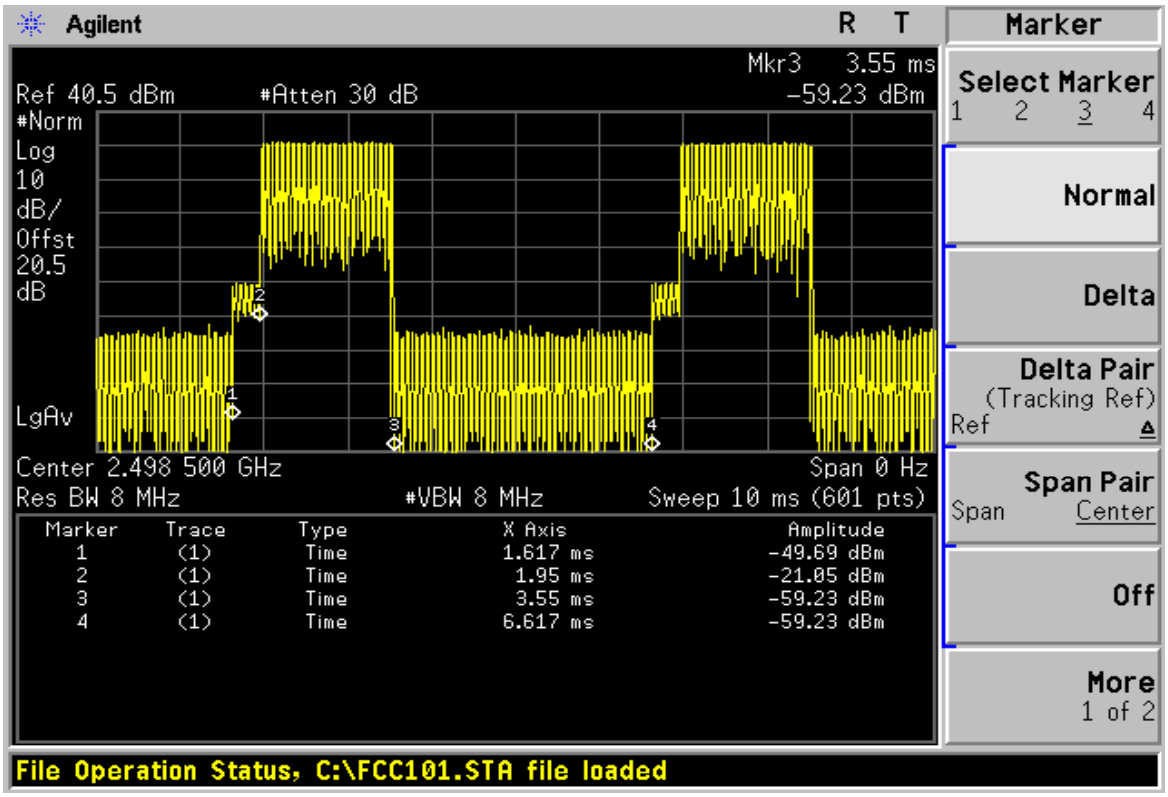
Therefore, calculation formula is as below

Duty cycle = 15 symbol UL time / Burst length *100 %

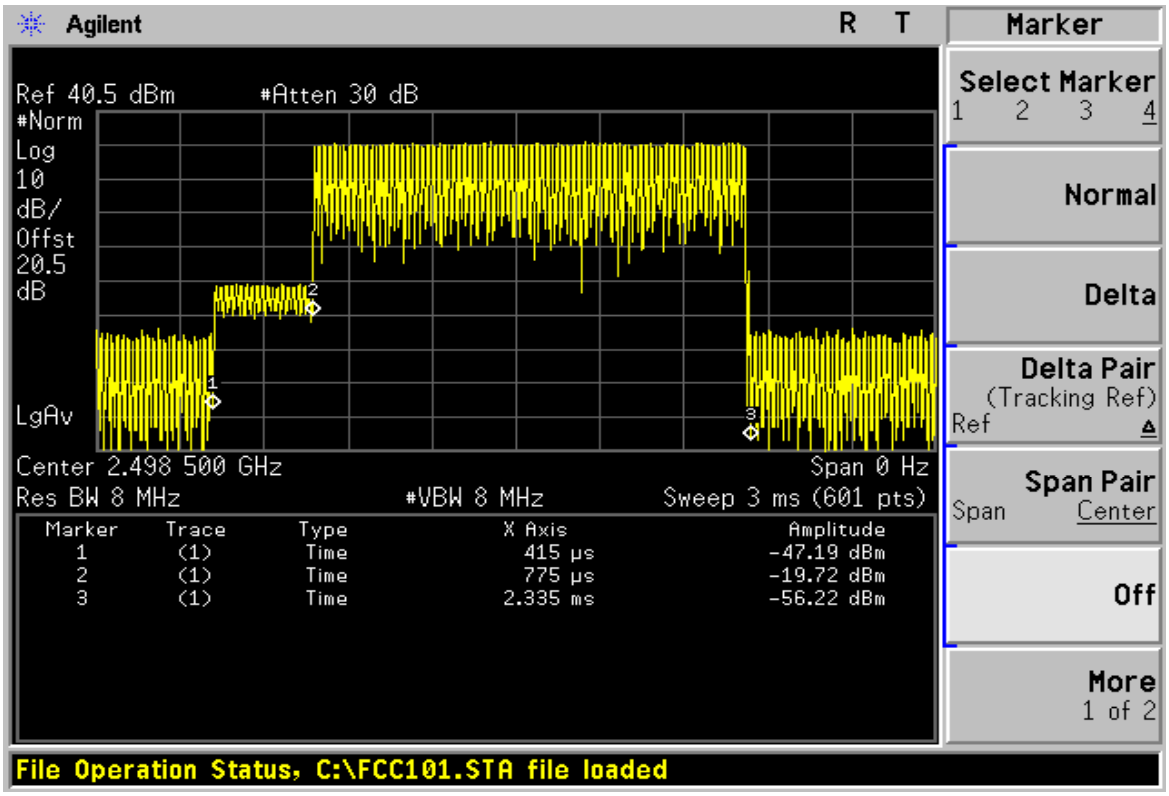
ZONE TYPE PUSC
MODULATION QPSK 1/2
BANDWIDTH 5MHz

FREQUENCY 2498.5 MHz

Plot 1



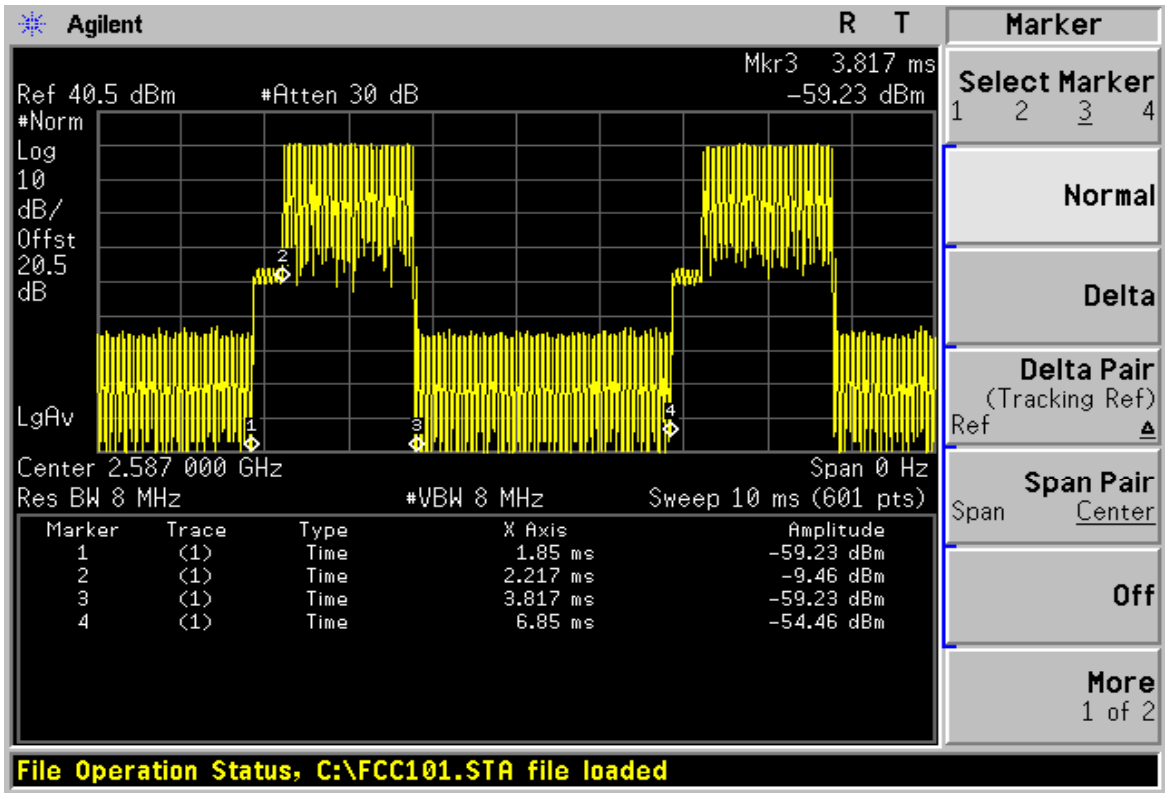
Plot 2



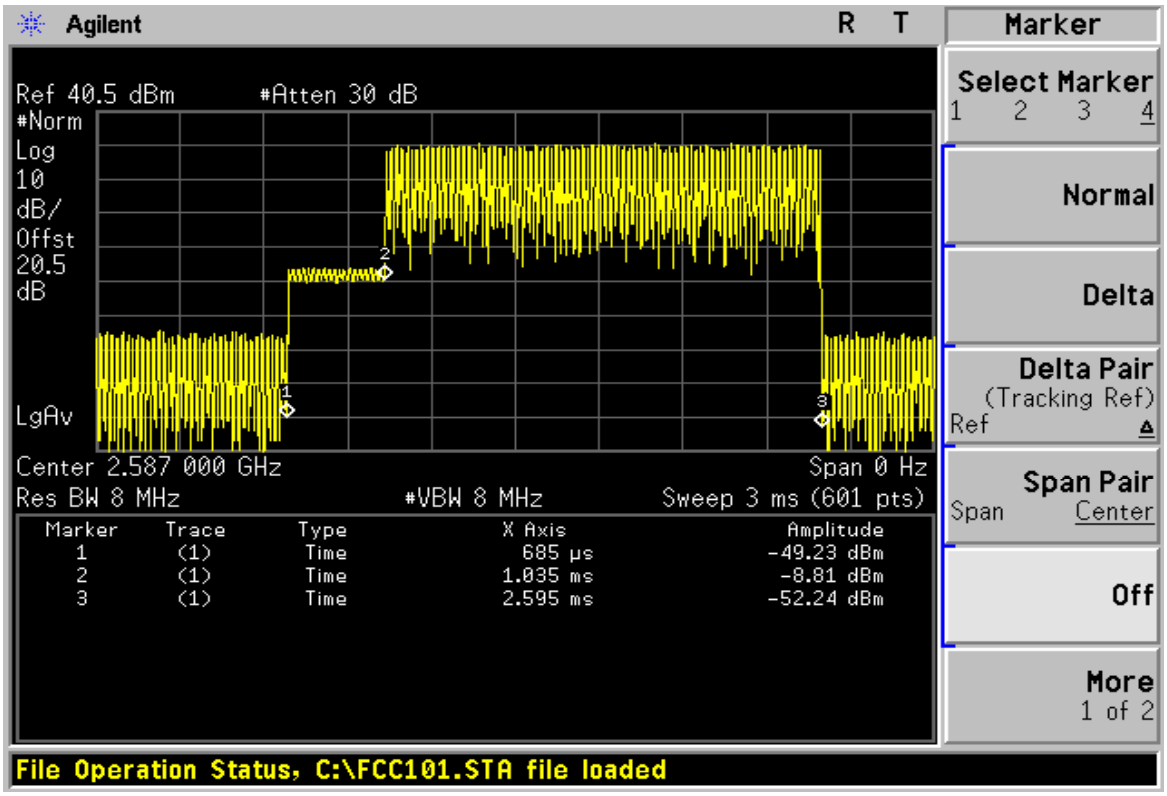
ZONE TYPE PUSC
MODULATION QPSK 1/2
BANDWIDTH 5MHz

FREQUENCY 2587 MHz

Plot 1



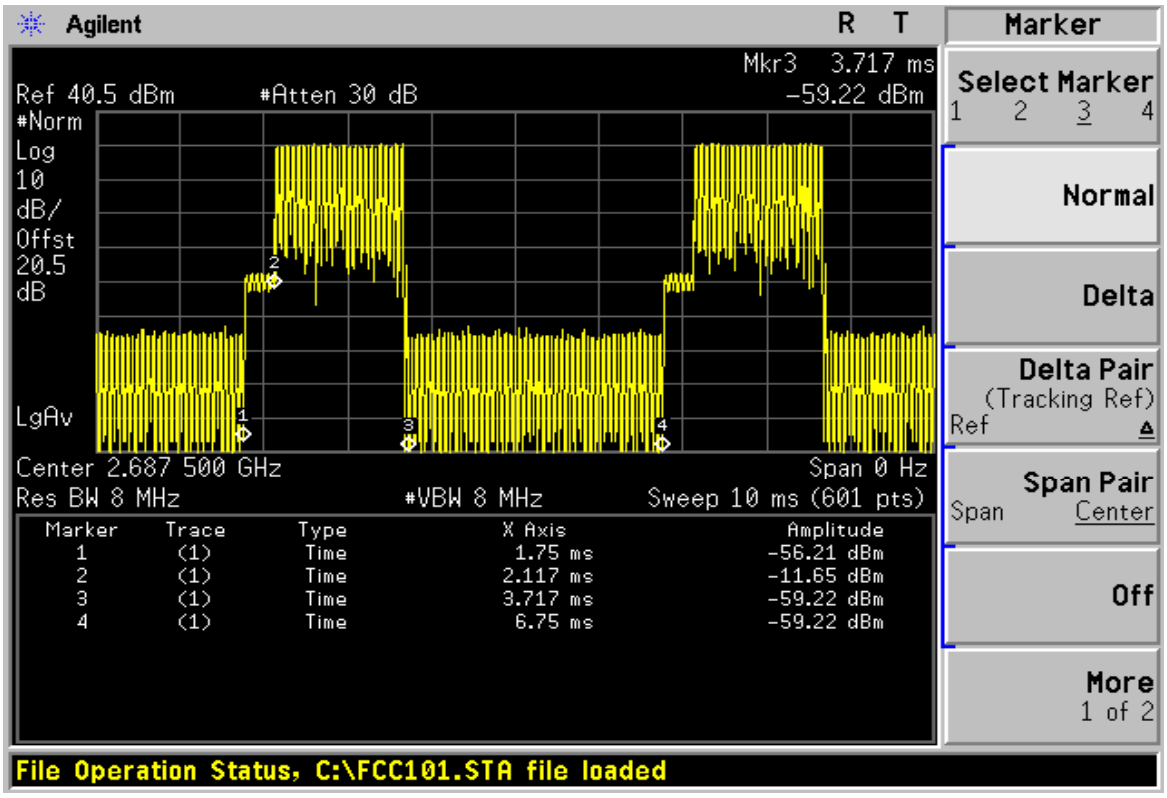
Plot 2



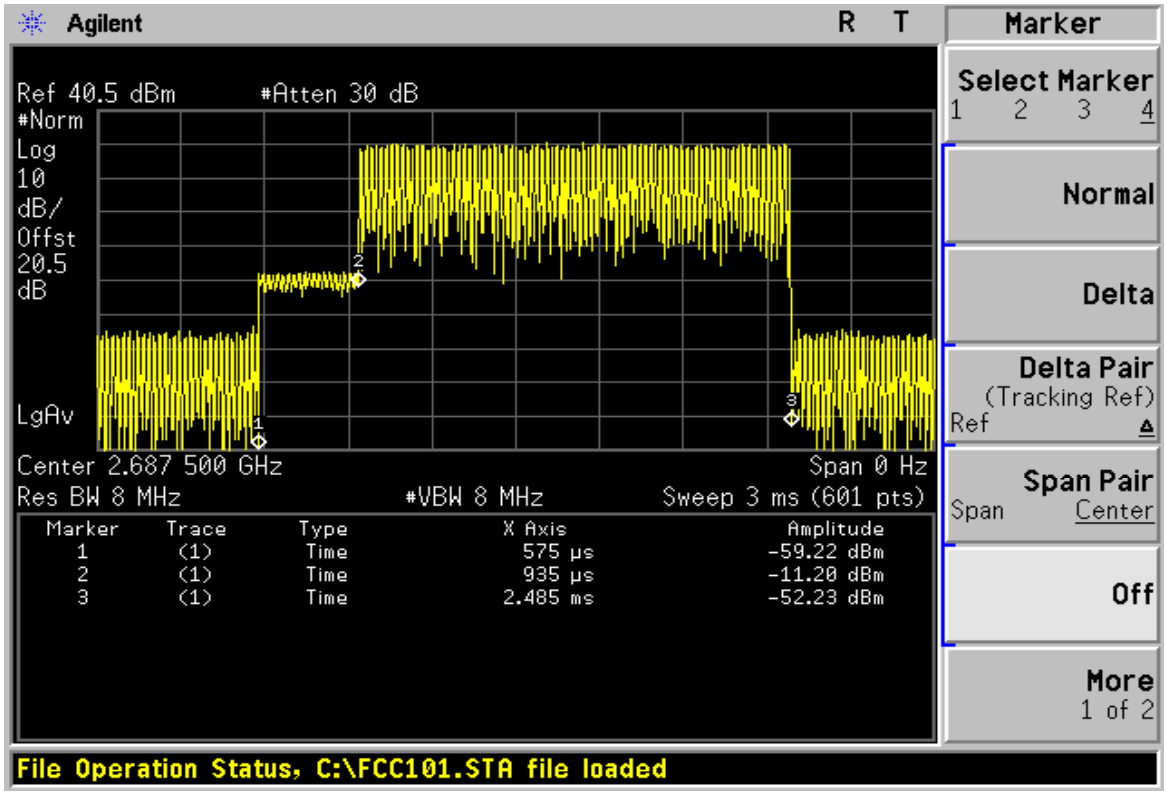
ZONE TYPE PUSC
MODULATION QPSK 1/2
BANDWIDTH 5MHz

FREQUENCY 2687.5 MHz

Plot 1



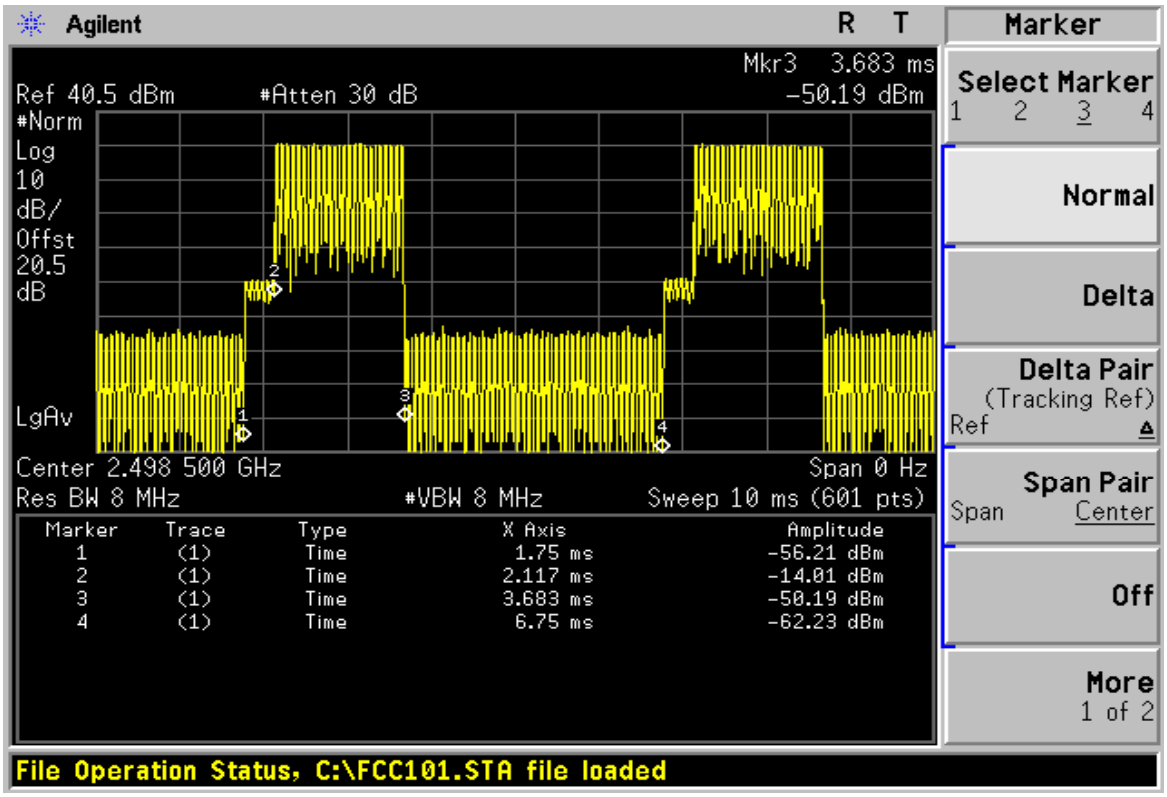
Plot 2



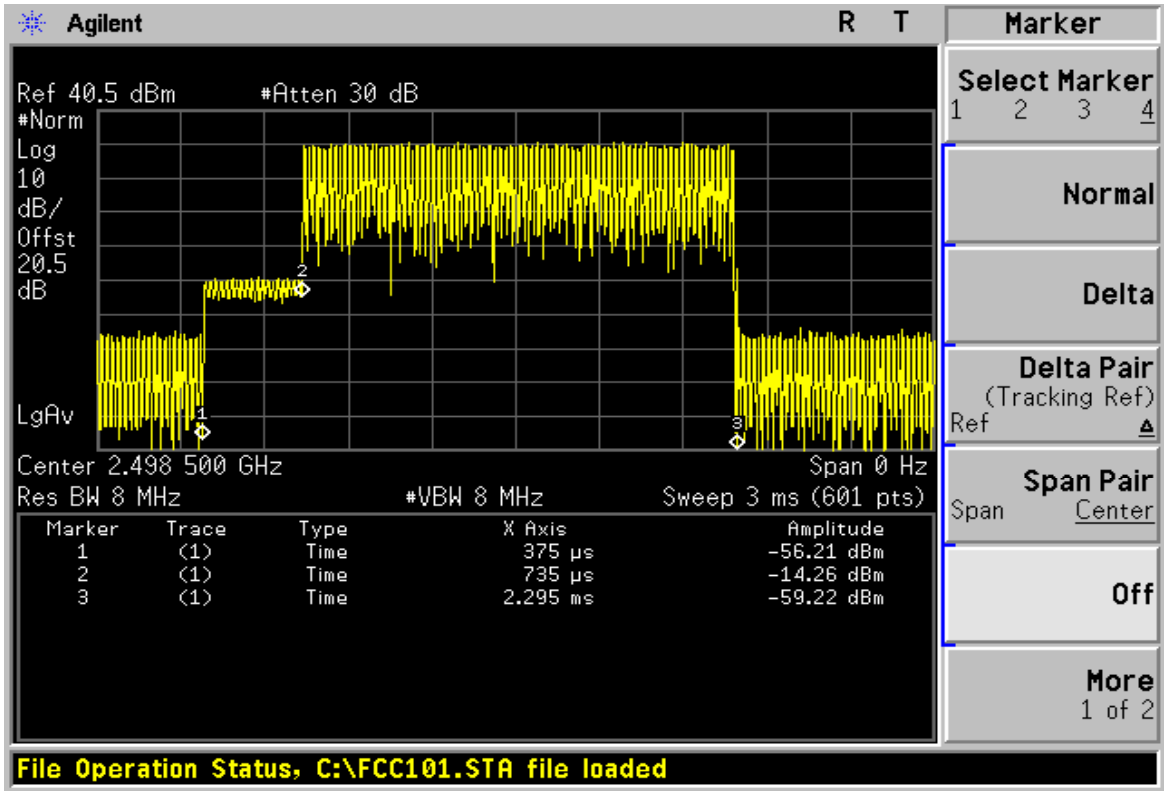
ZONE TYPE PUSC
MODULATION QPSK 3/4
BANDWIDTH 5MHz

FREQUENCY 2498.5 MHz

Plot 1



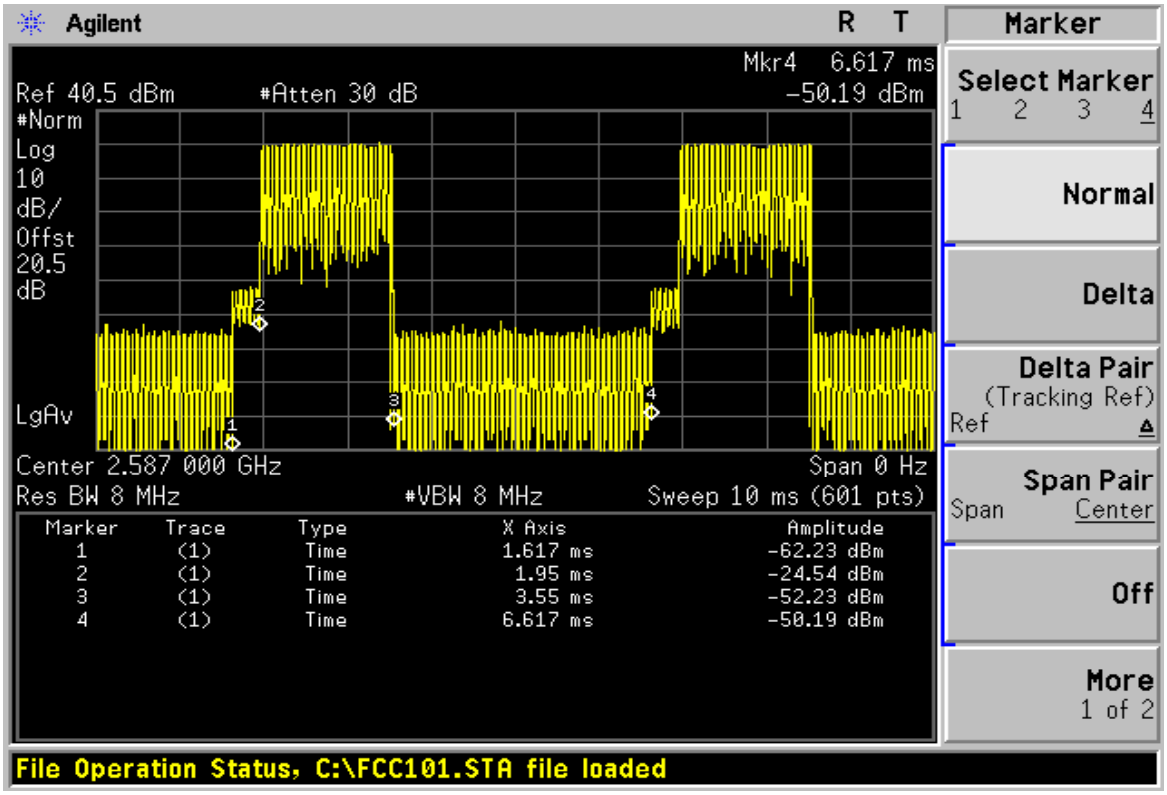
Plot 2



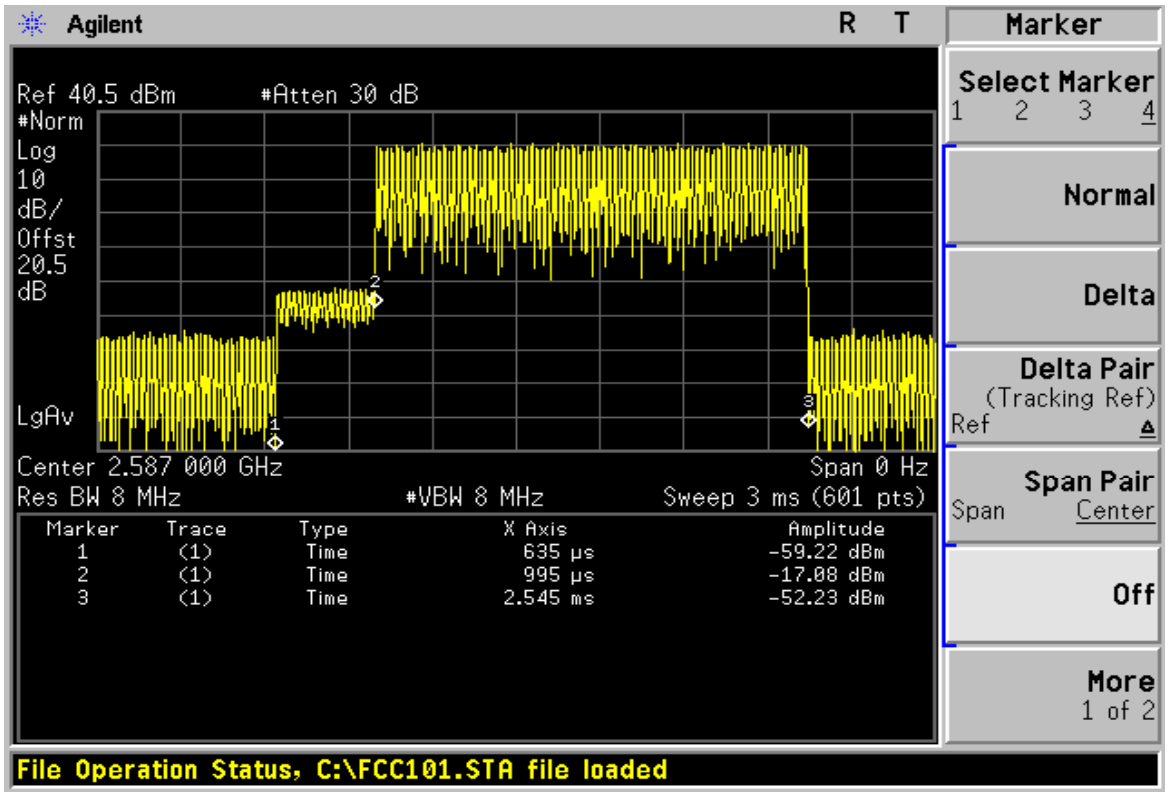
ZONE TYPE PUSC
MODULATION QPSK 3/4
BANDWIDTH 5MHz

FREQUENCY 2587 MHz

Plot 1



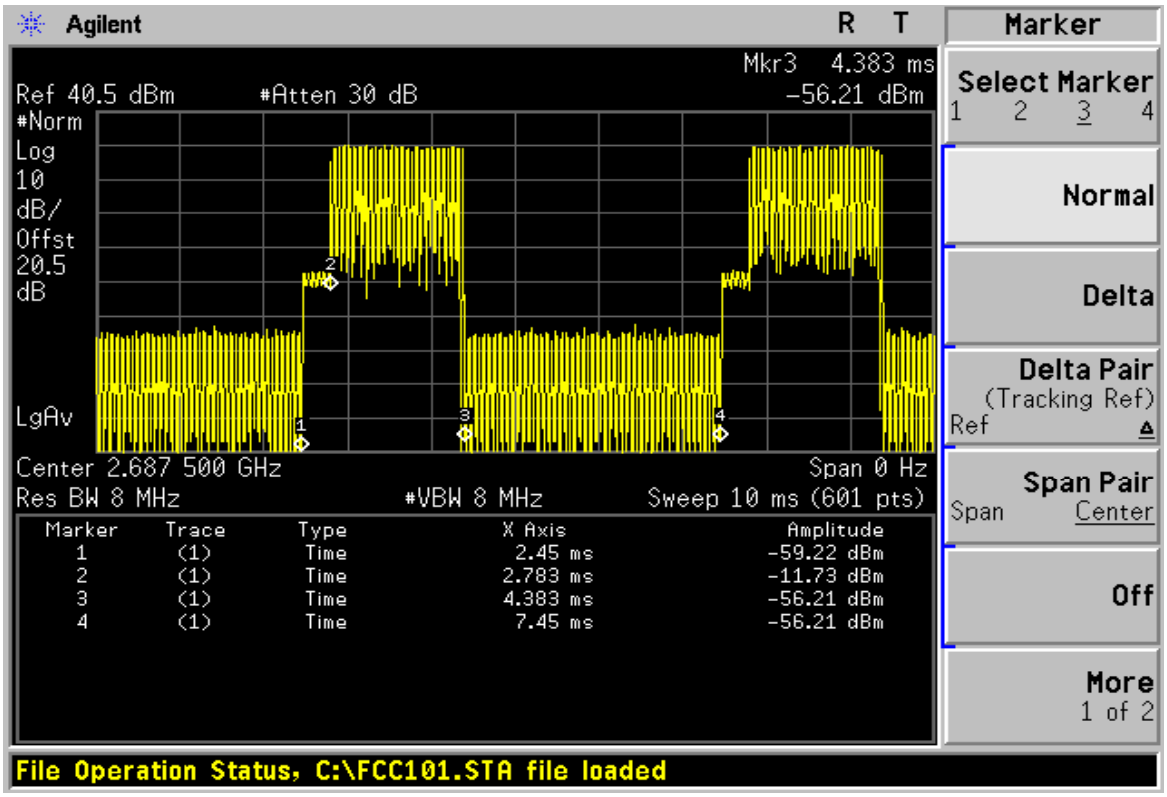
Plot 2



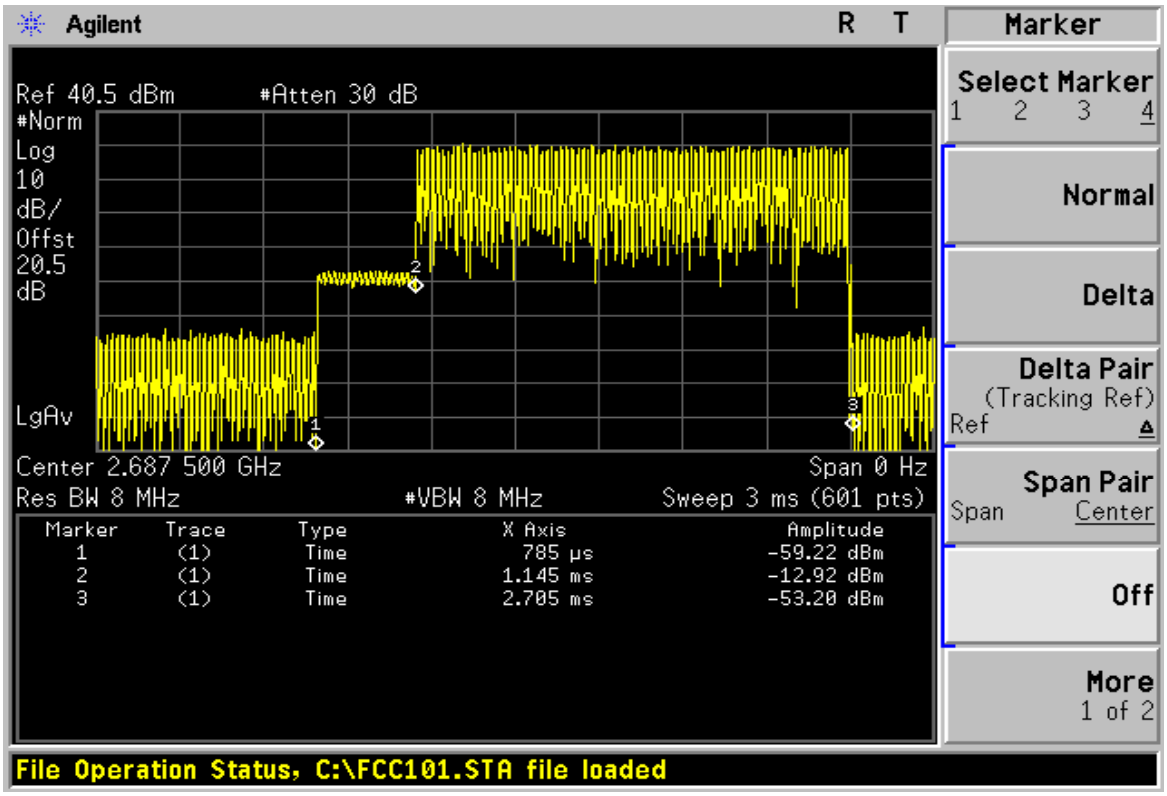
ZONE TYPE PUSC
MODULATION QPSK 3/4
BANDWIDTH 5MHz

FREQUENCY 2687.5 MHz

Plot 1



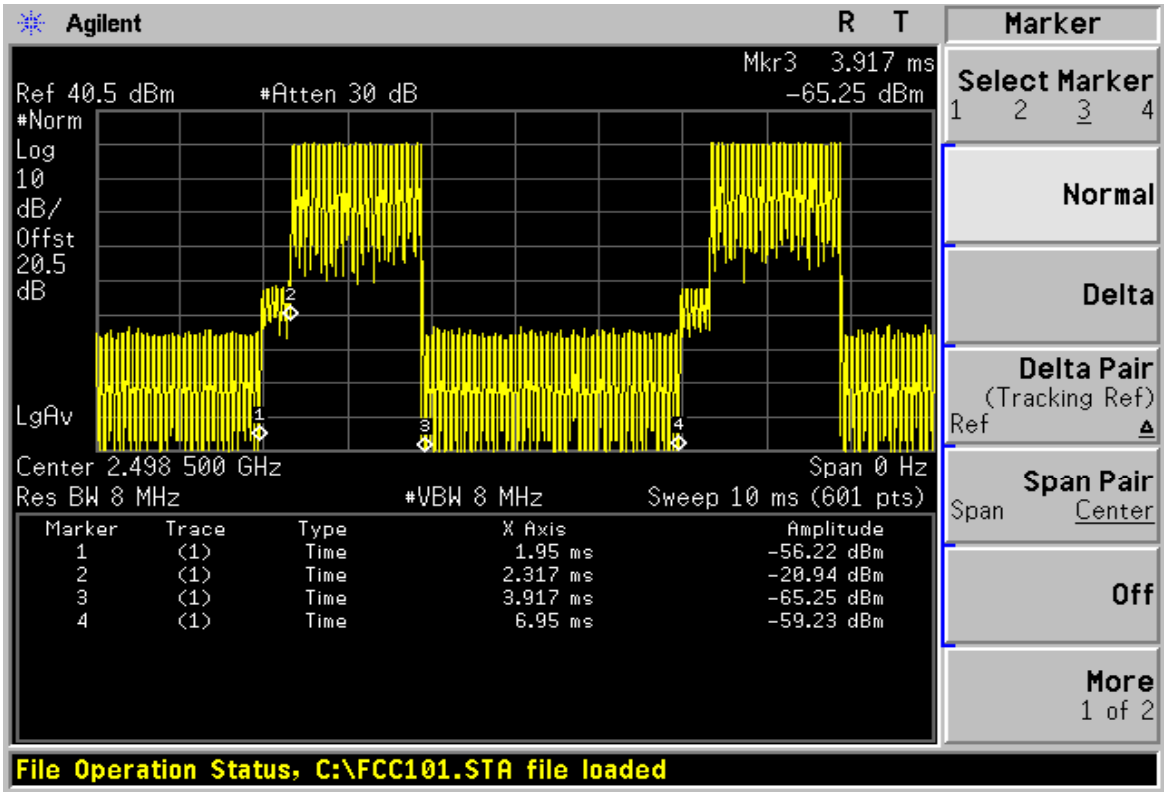
Plot 2



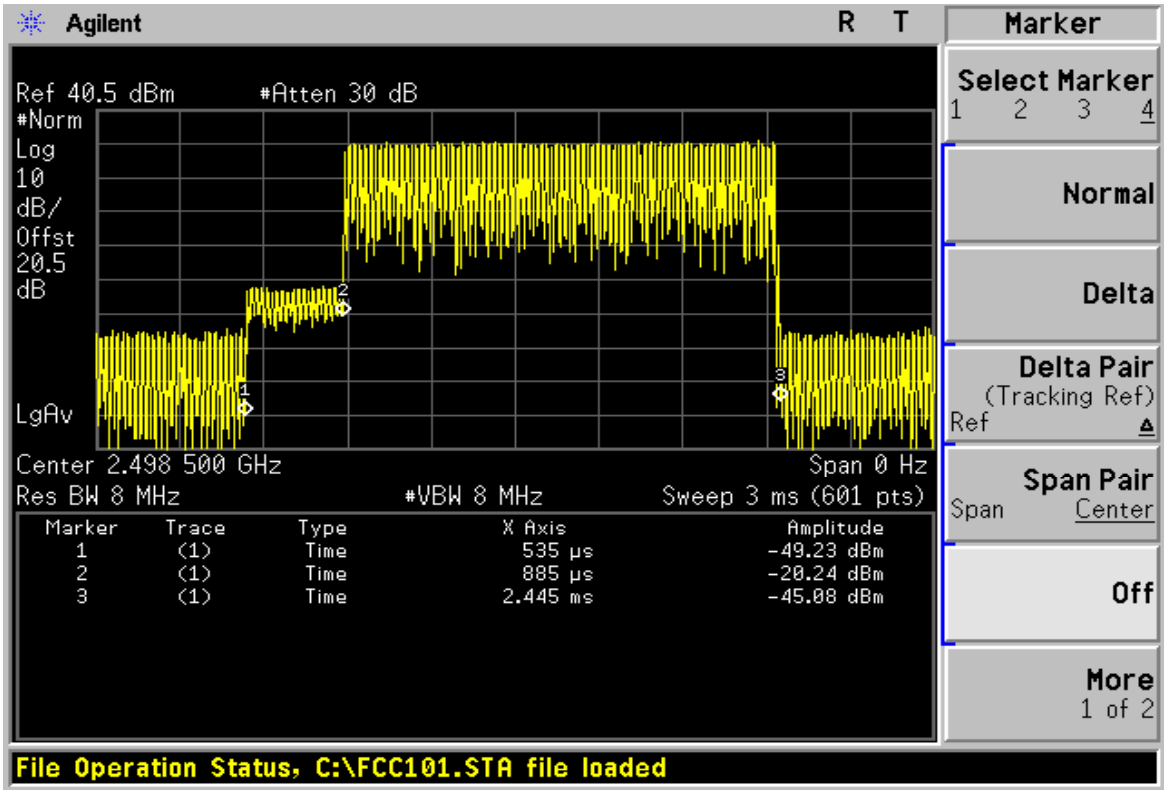
ZONE TYPE PUSC
MODULATION 16QAM 1/2
BANDWIDTH 5MHz

FREQUENCY 2498.5 MHz

Plot 1



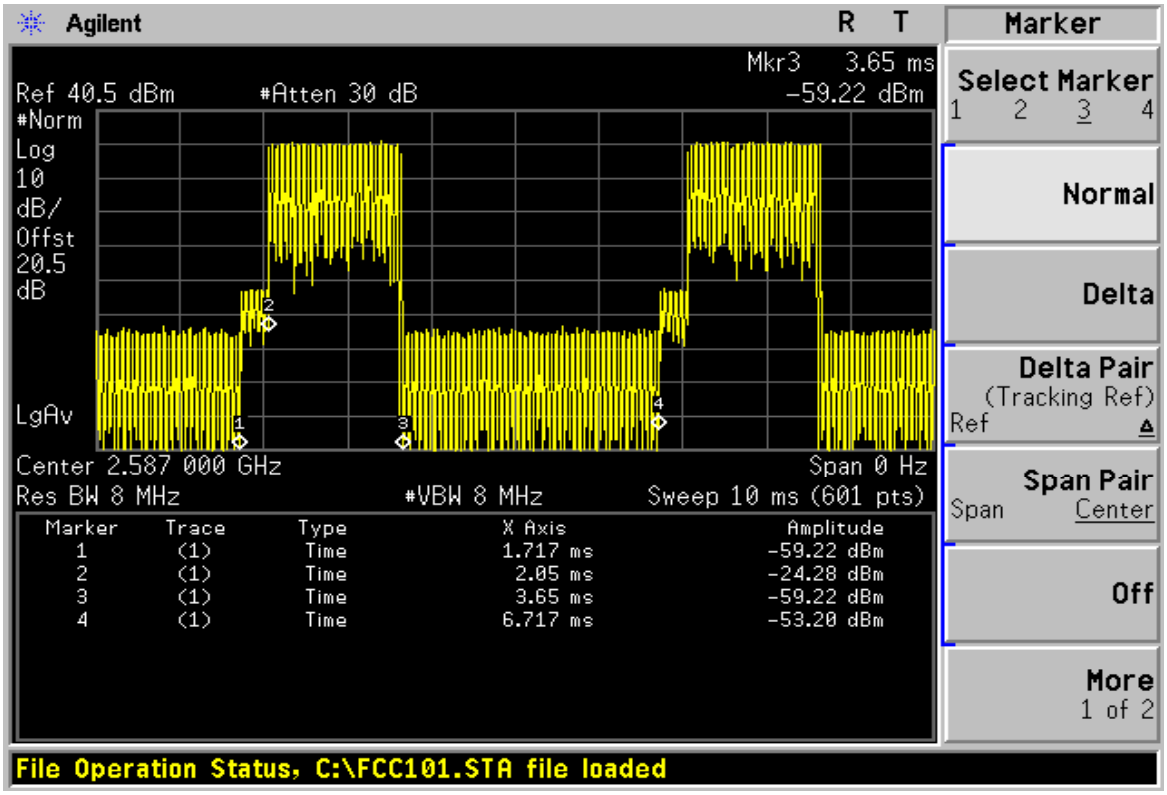
Plot 2



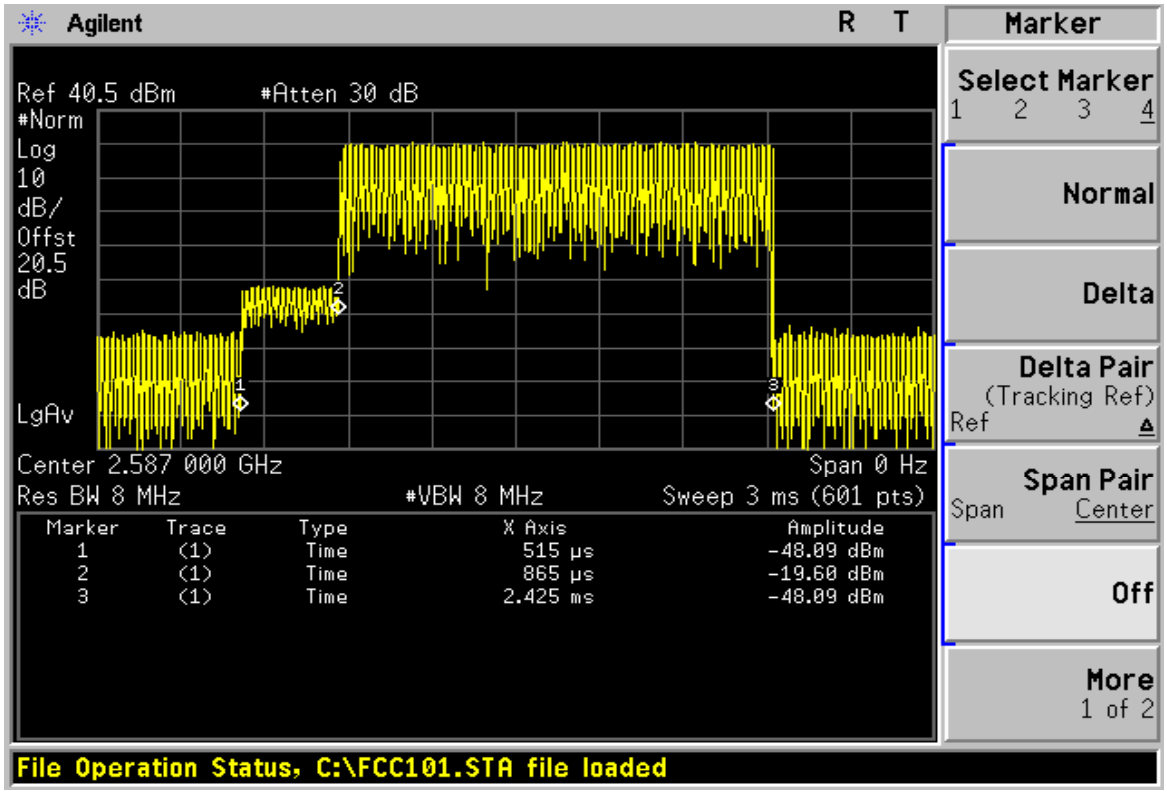
ZONE TYPE PUSC
MODULATION 16QAM 1/2
BANDWIDTH 5MHz

FREQUENCY 2587 MHz

Plot 1



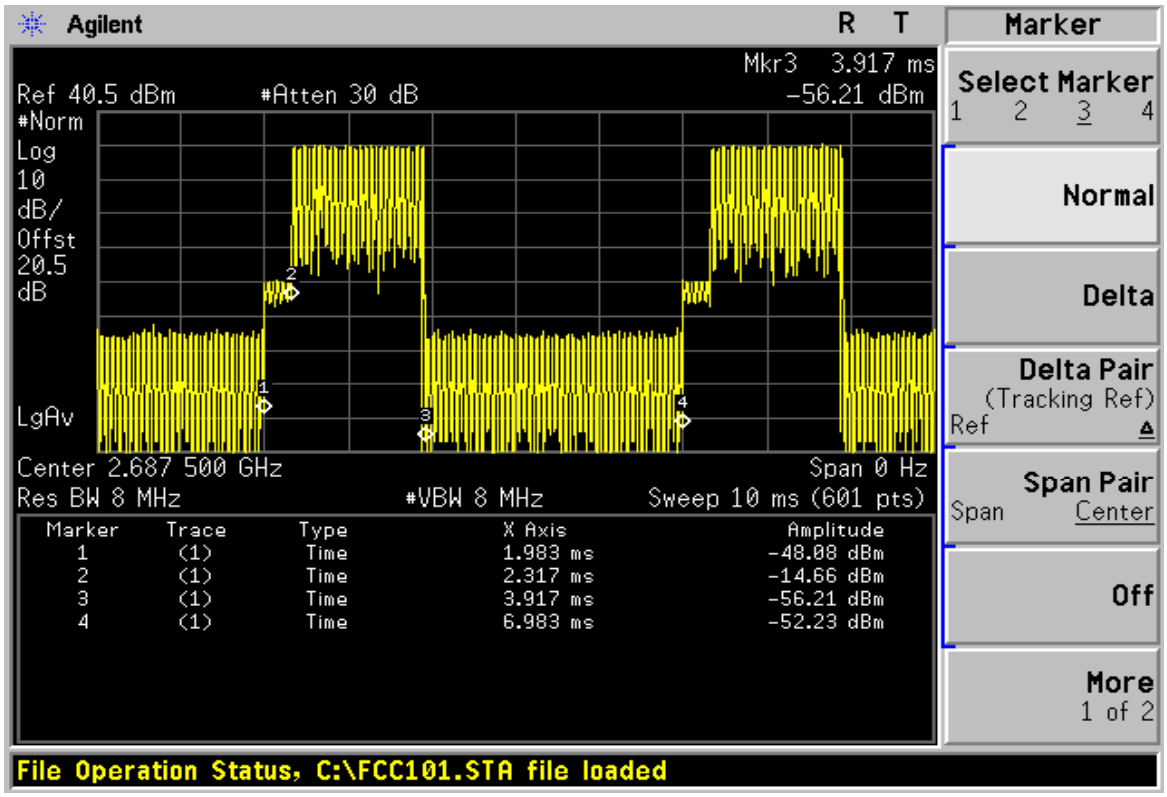
Plot 2



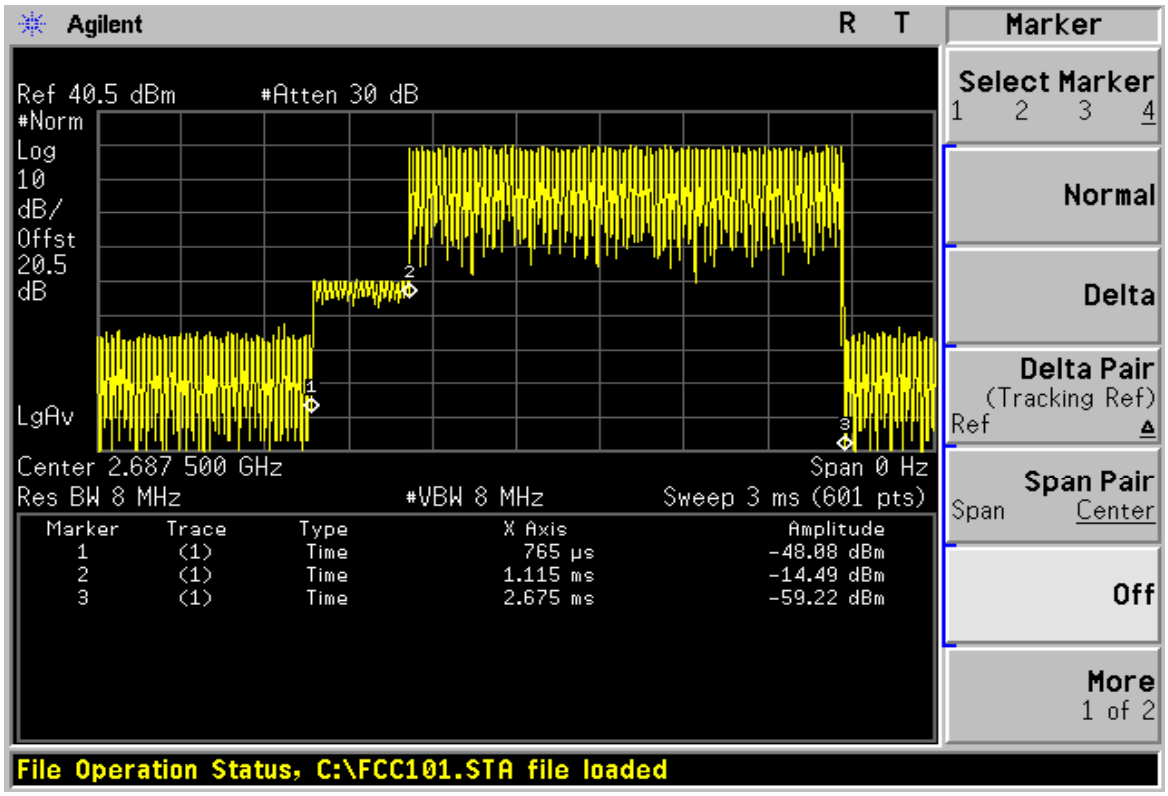
ZONE TYPE PUSC
MODULATION 16QAM 1/2
BANDWIDTH 5MHz

FREQUENCY 2687.5 MHz

Plot 1



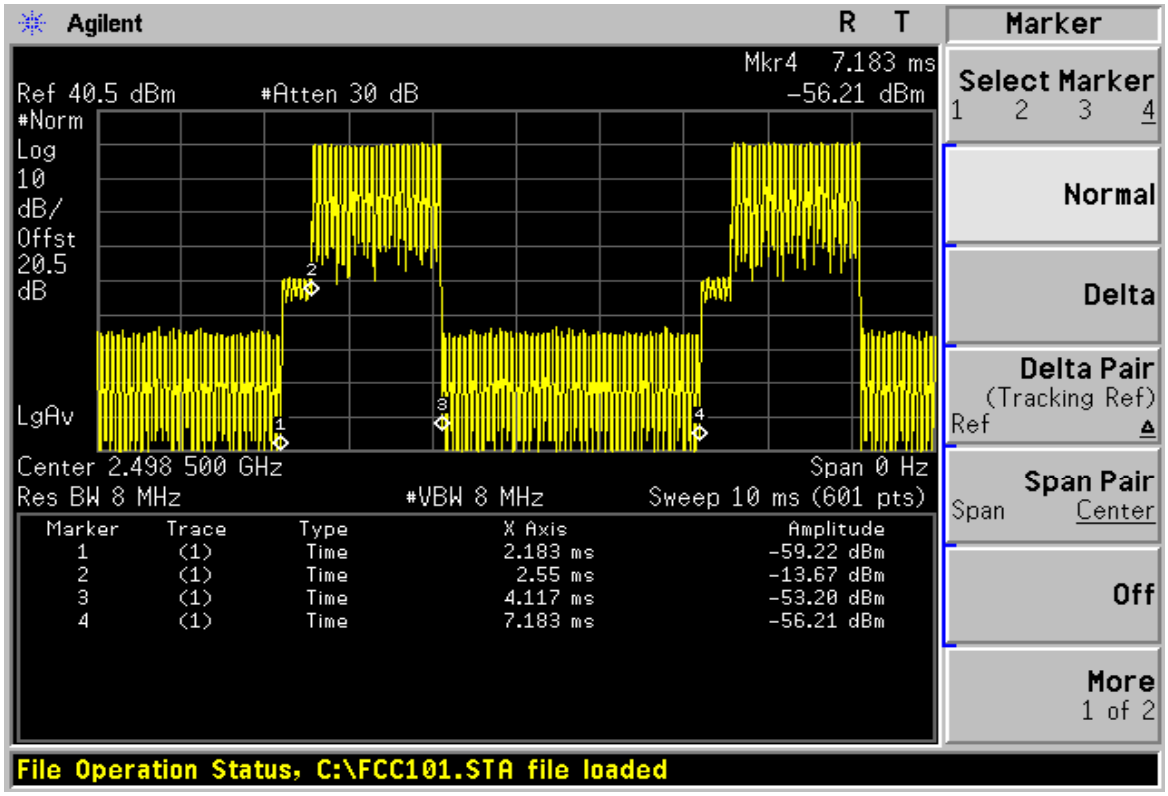
Plot 2



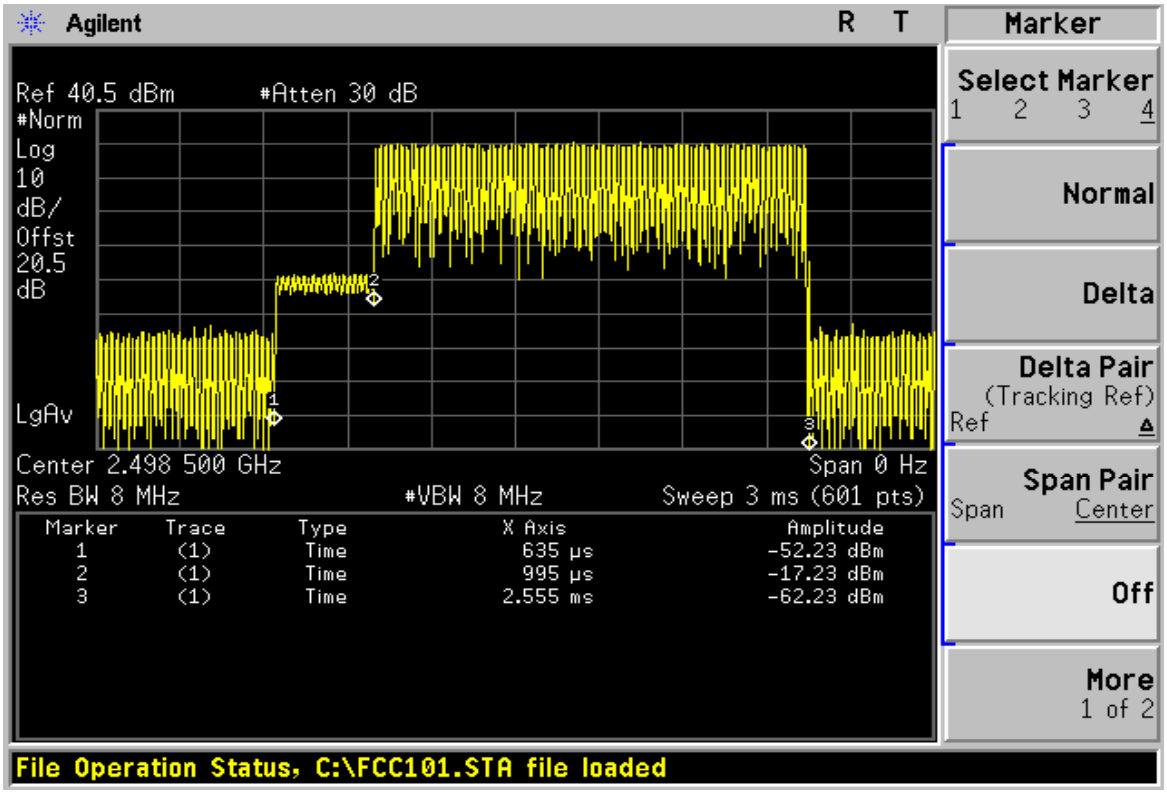
ZONE TYPE PUSC
MODULATION 16QAM 3/4
BANDWIDTH 5MHz

FREQUENCY 2498.5 MHz

Plot 1



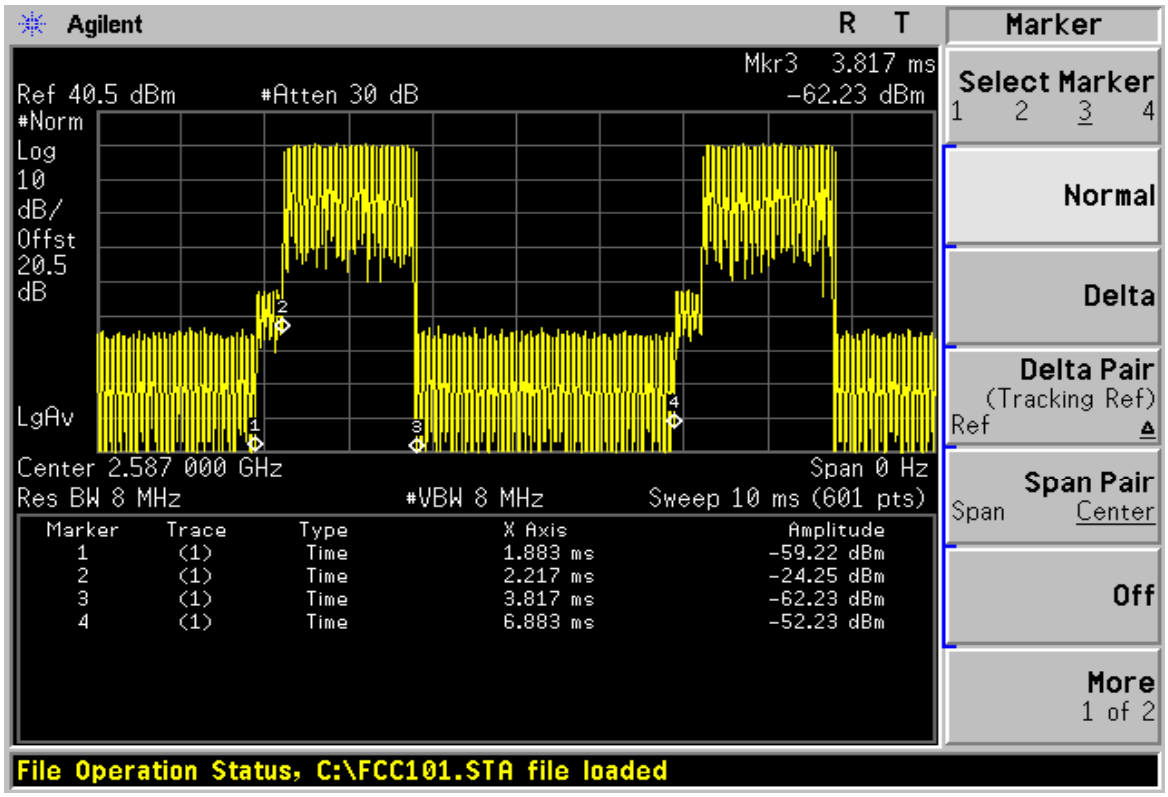
Plot 2



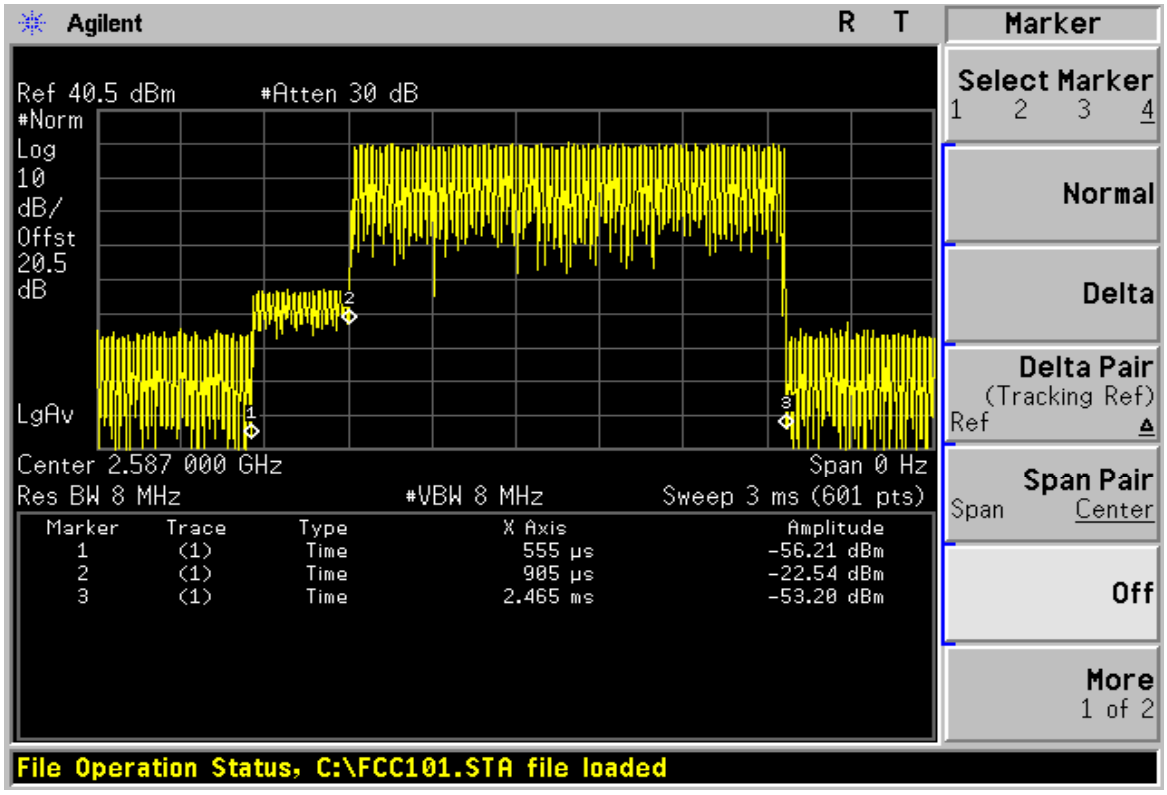
ZONE TYPE PUSC
MODULATION 16QAM 3/4
BANDWIDTH 5MHz

FREQUENCY 2587 MHz

Plot 1



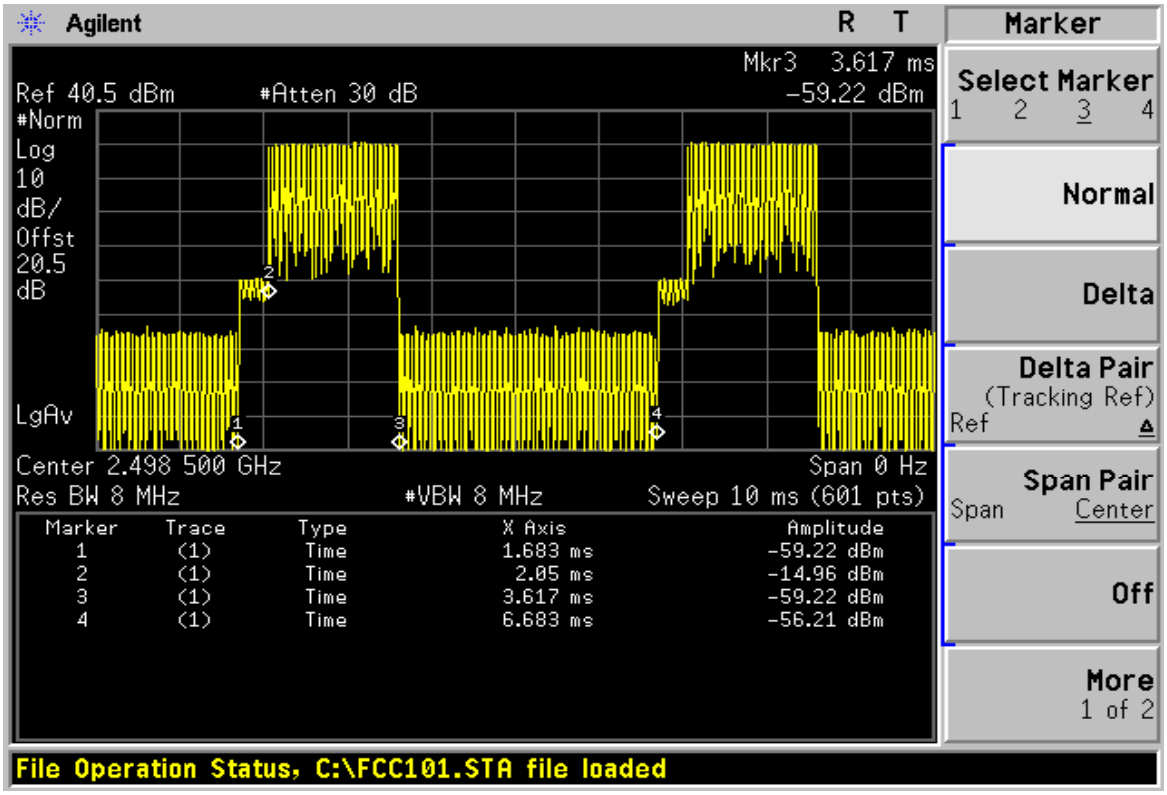
Plot 2



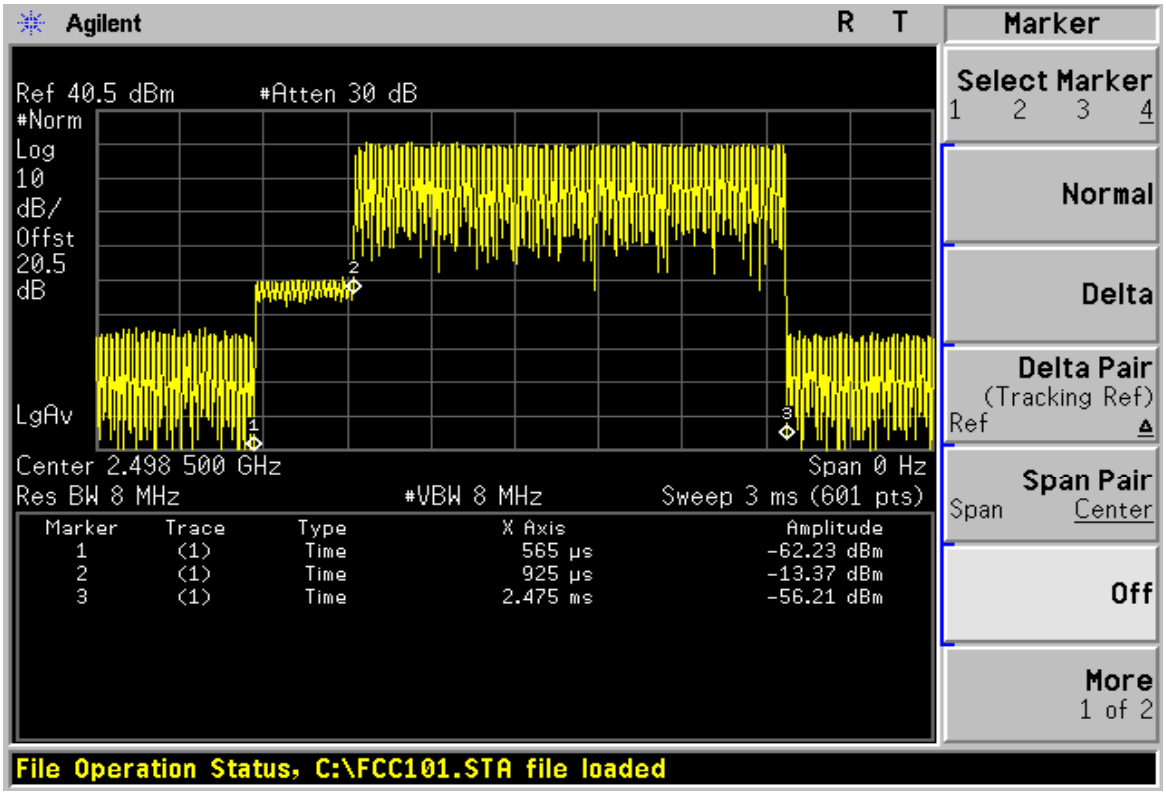
ZONE TYPE PUSC
MODULATION 16QAM 3/4
BANDWIDTH 5MHz

FREQUENCY 2687.5 MHz

Plot 1



Plot 2



APPENDIX D DUTY CYCLE OF TEST SIGNAL FOR 10MHz BANDWIDTH

Summary measured result of signal duty cycle measurement:

Channel BW	UL zone type / DL/UL symbols	modulation	Measured Duty Cycle(%)		
			Channel		
			Low	Mid	High
10MHz	PUSC / 29/18	QPSK-1/2	31.2	31.2	31.2
		QPSK-3/4	31.2	31	31
		16QAM-1/2	31	31.2	31.2
		16QAM-3/4	31	31.2	31.2

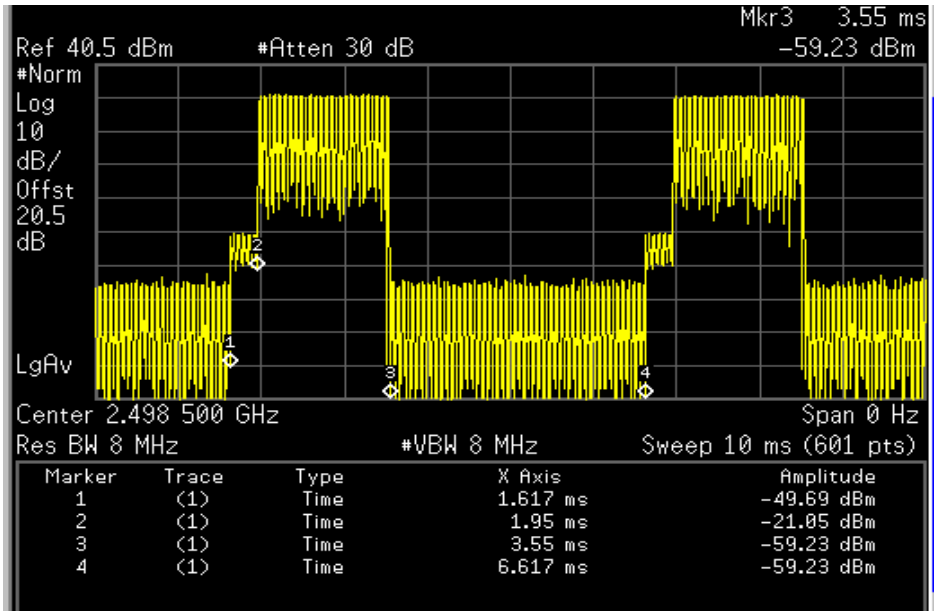
Calculation of Duty cycle (UL : DL ratio of test signal is 18:29)

2 plots are measured for duty cycle to each condition shown on above summary table

Plot 1 is used to get the burst length of test signal.

Burst length = Mark 4 – Mark 1

Plot 1

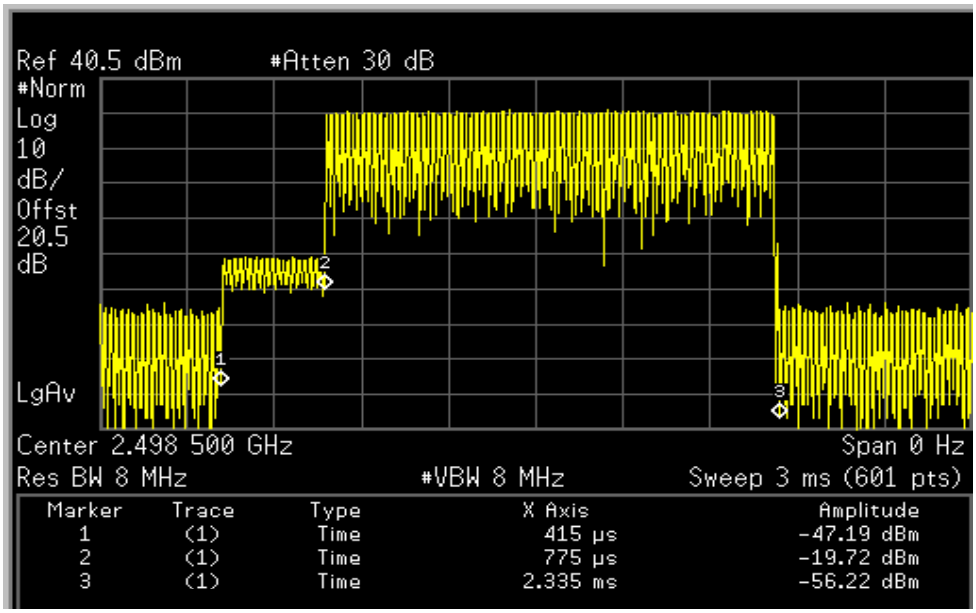


Plot 2 is used to get the UL time of test signal.

Mark 2 – Mark1 = First 3 symbols UL time

Mark 3 – Mark 2 =15 symbols UL time

Plot 2



Per KDB 615223 , the first 3 symbols UL time is ignored

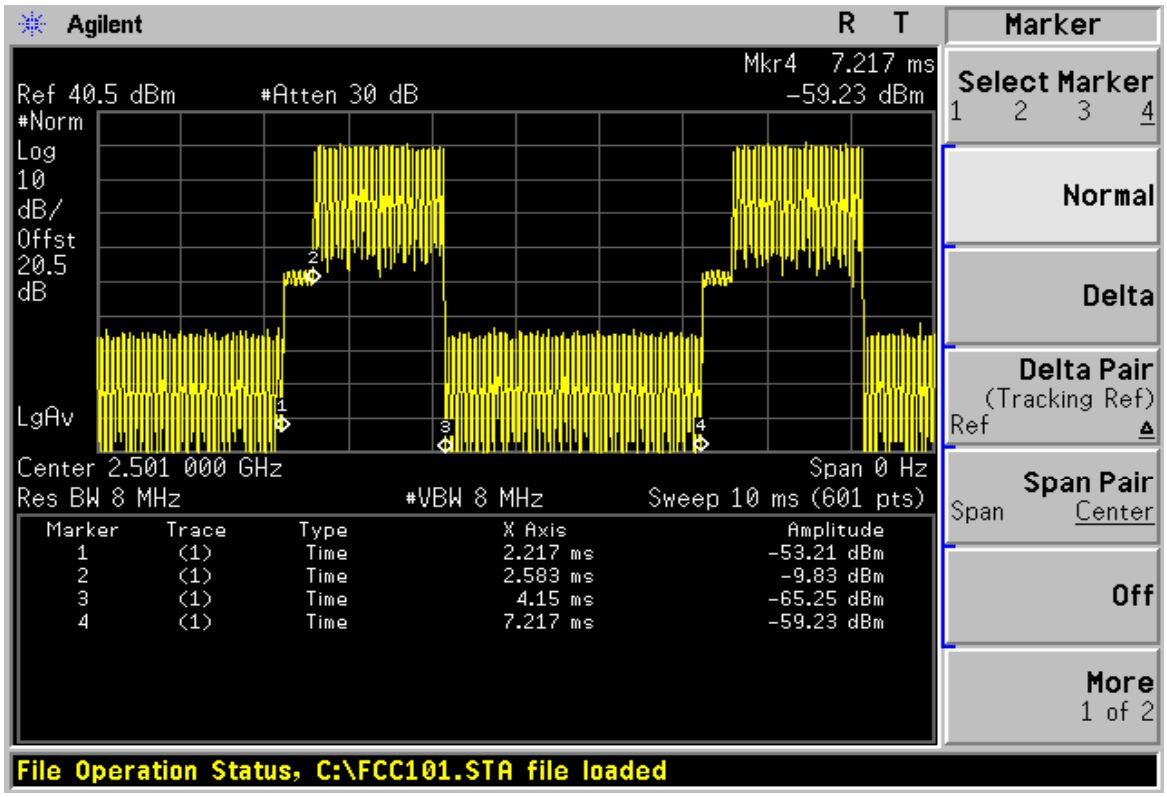
Therefore, calculation formula is as below

Duty cycle = 15 symbol UL time / Burst length *100 %

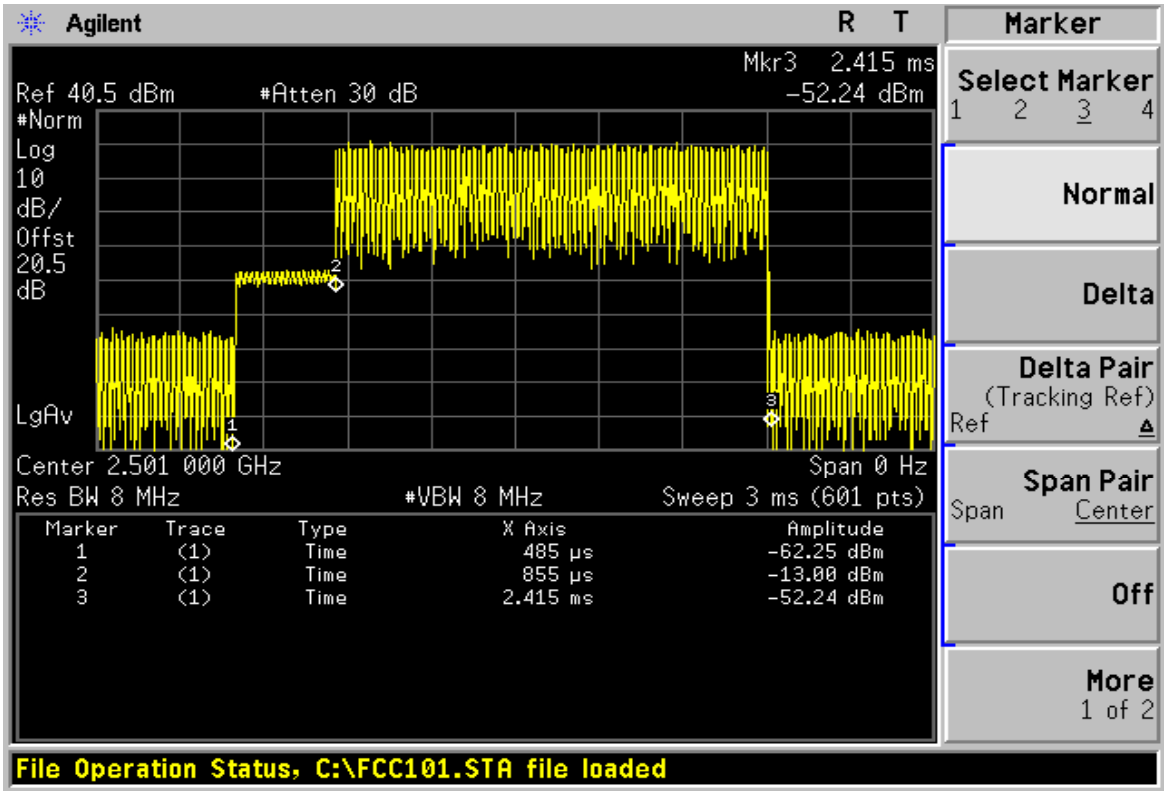
ZONE TYPE PUSC
MODULATION QPSK 1/2
BANDWIDTH 10MHz

FREQUENCY 2501 MHz

Plot 1



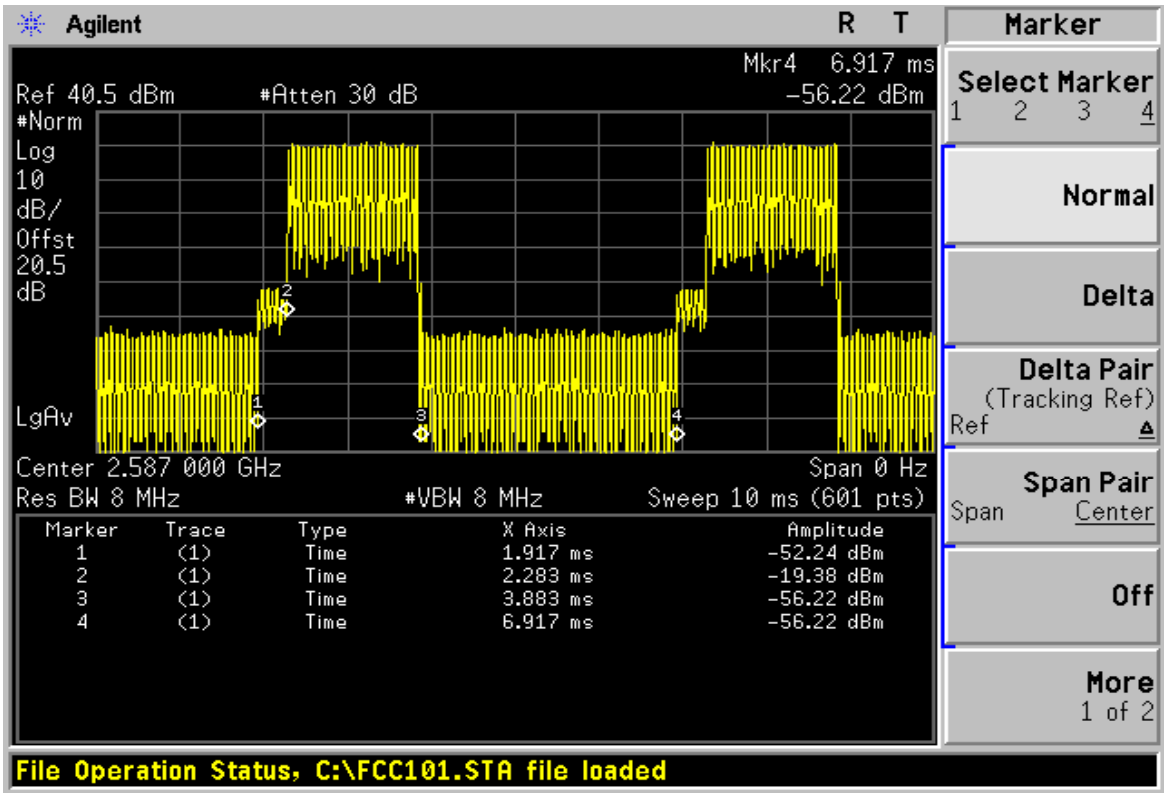
Plot 2



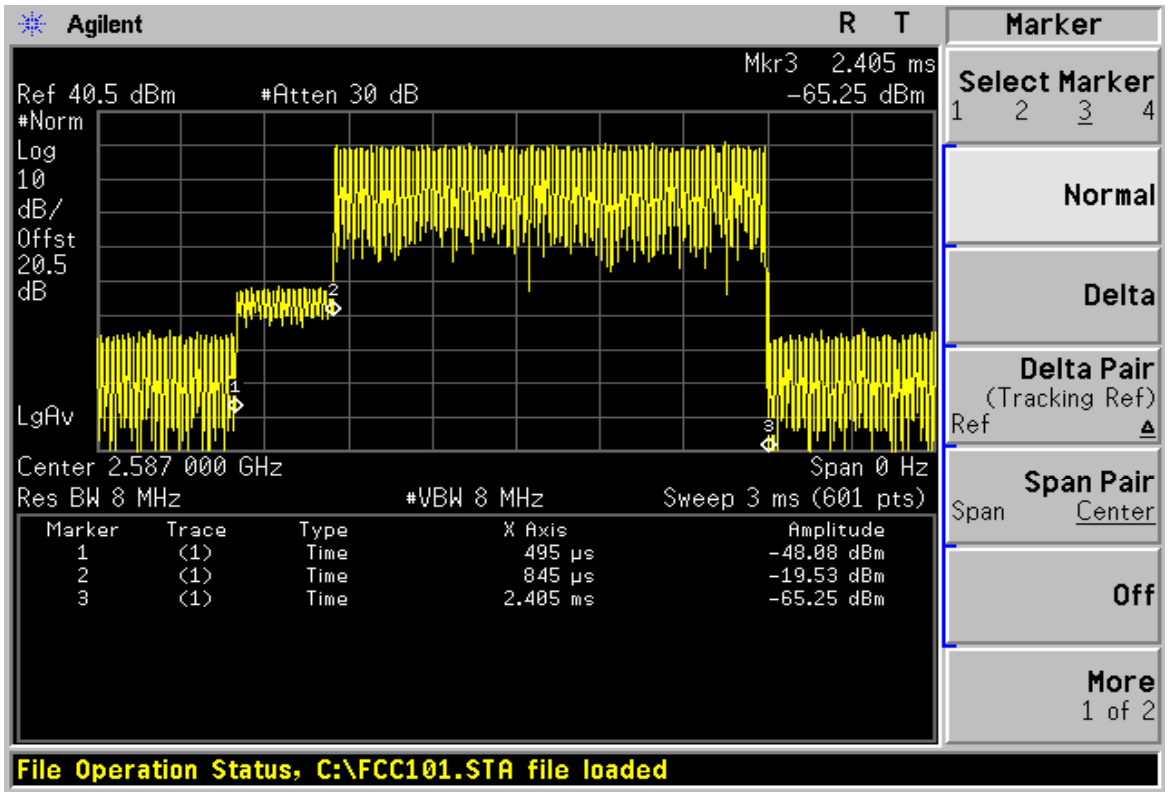
ZONE TYPE PUSC
MODULATION QPSK 1/2
BANDWIDTH 10MHz

FREQUENCY 2587 MHz

Plot 1



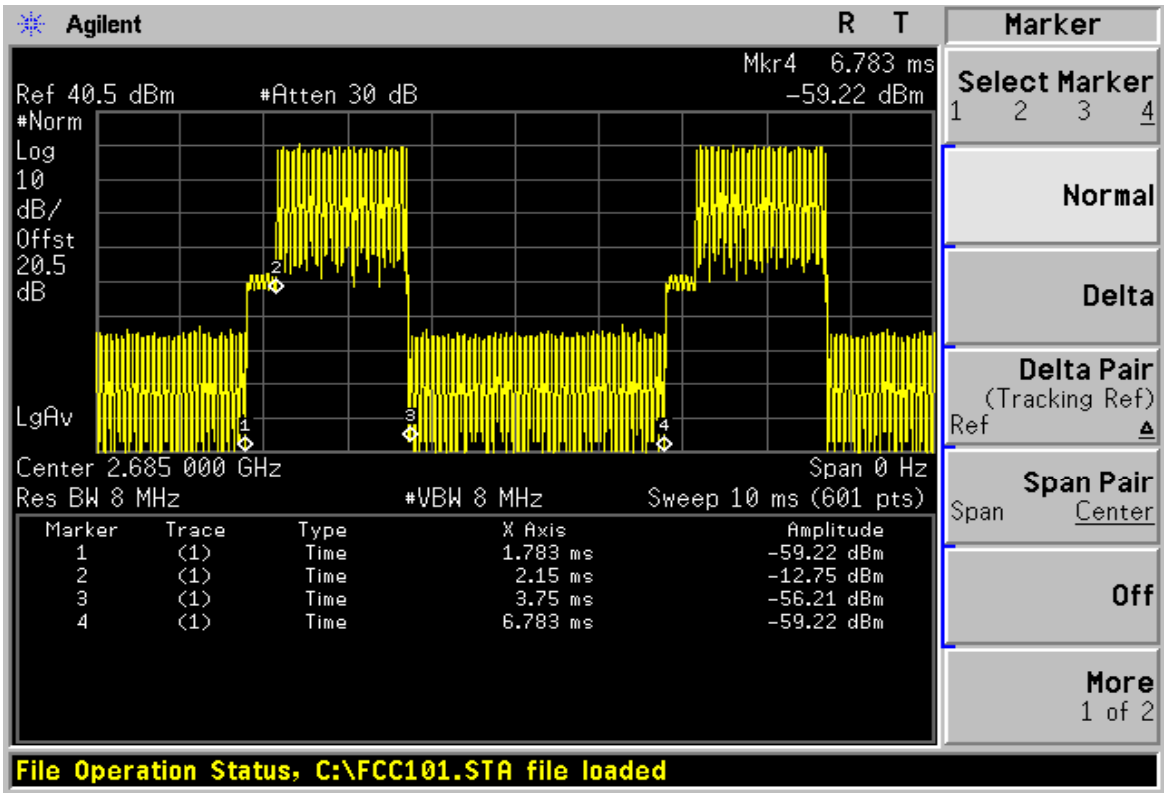
Plot 2



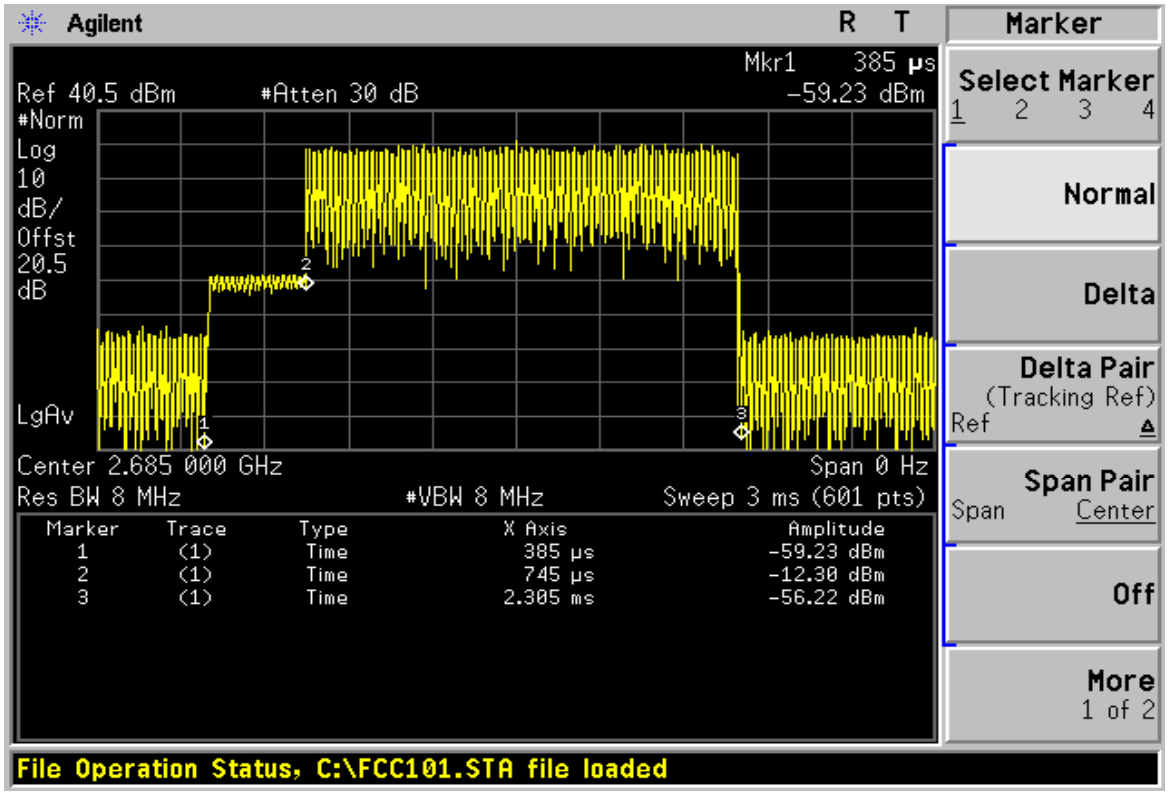
ZONE TYPE PUSC
MODULATION QPSK 1/2
BANDWIDTH 10MHz

FREQUENCY 2685 MHz

Plot 1



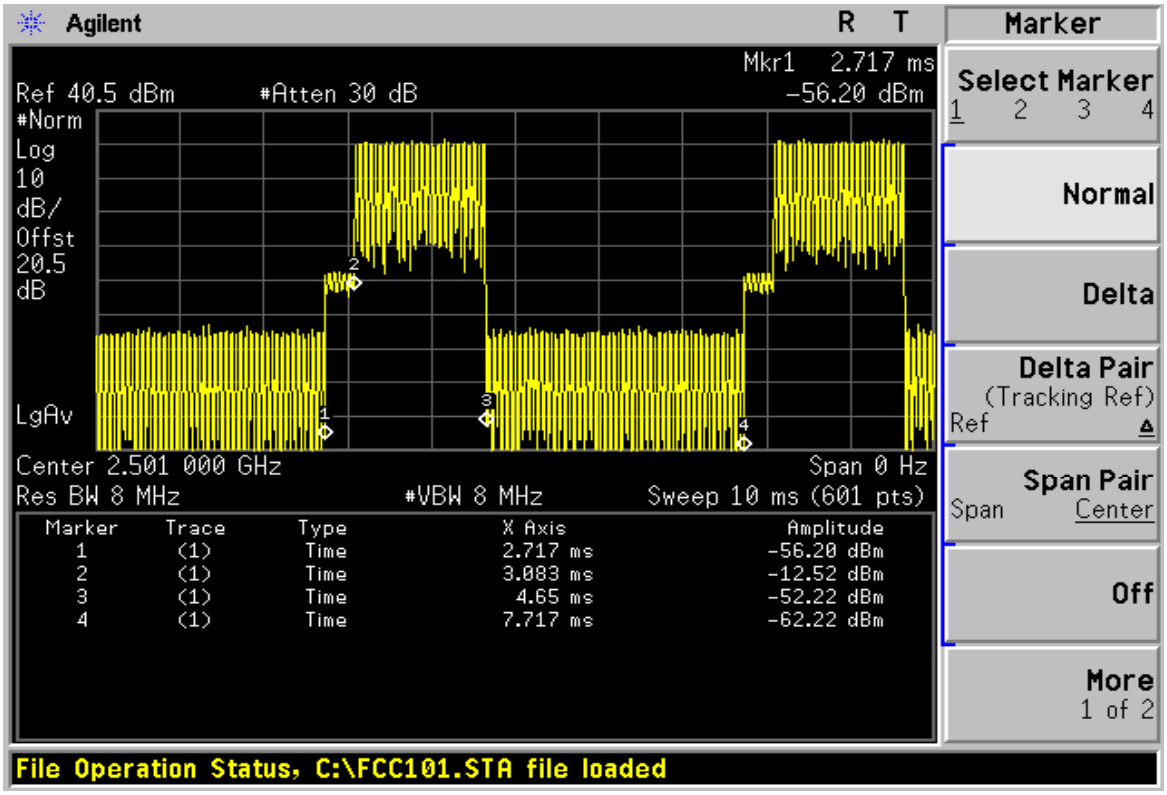
Plot 2



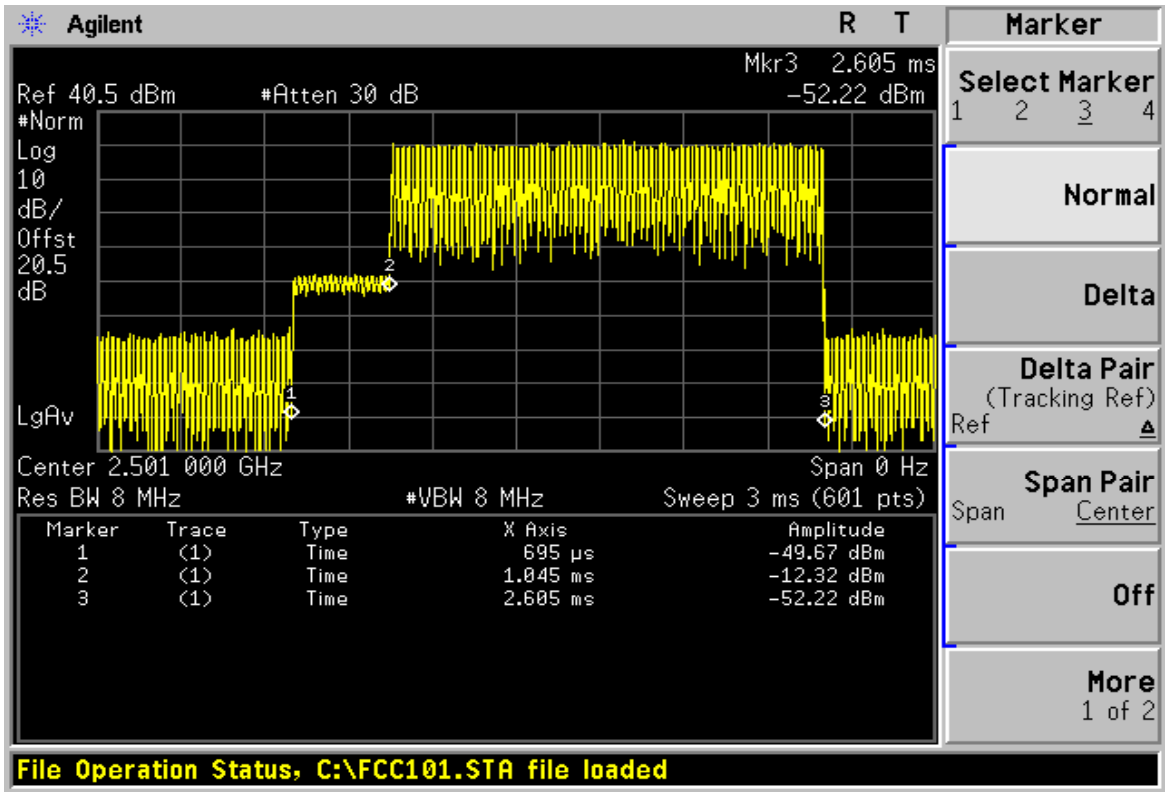
ZONE TYPE PUSC
MODULATION QPSK 3/4
BANDWIDTH 10MHz

FREQUENCY 2501 MHz

Plot 1



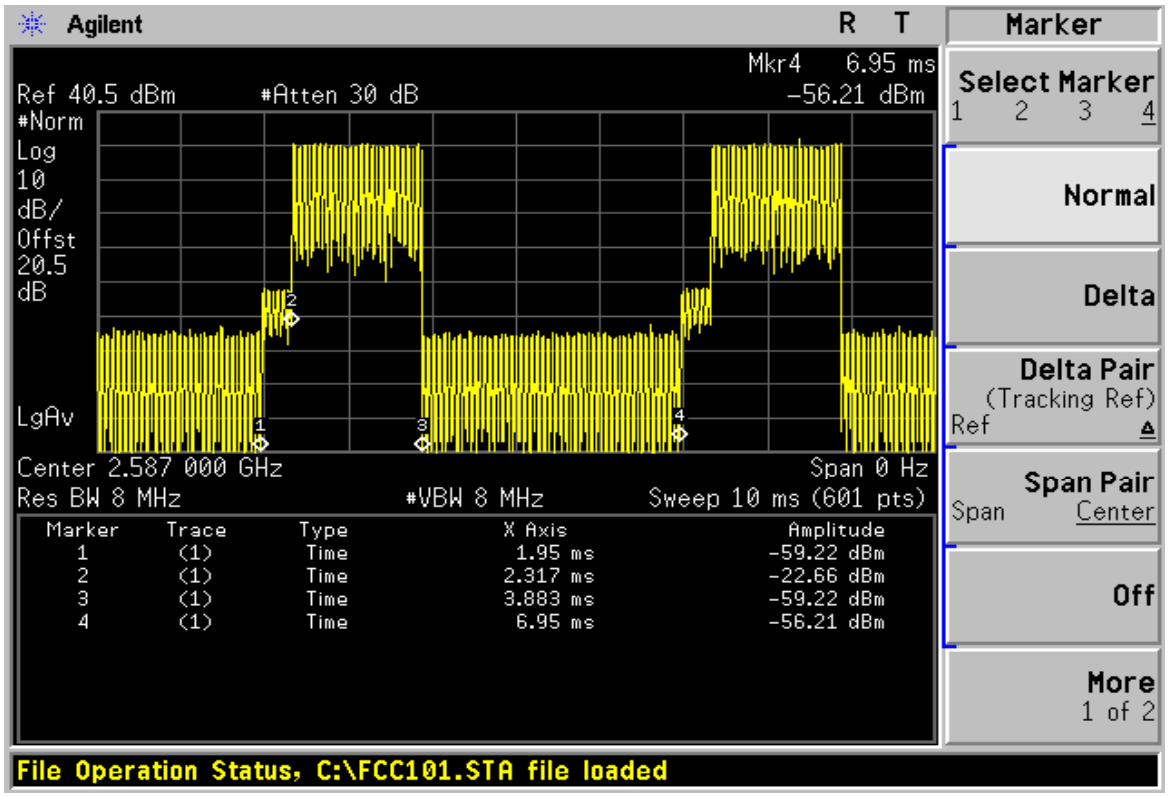
Plot 2



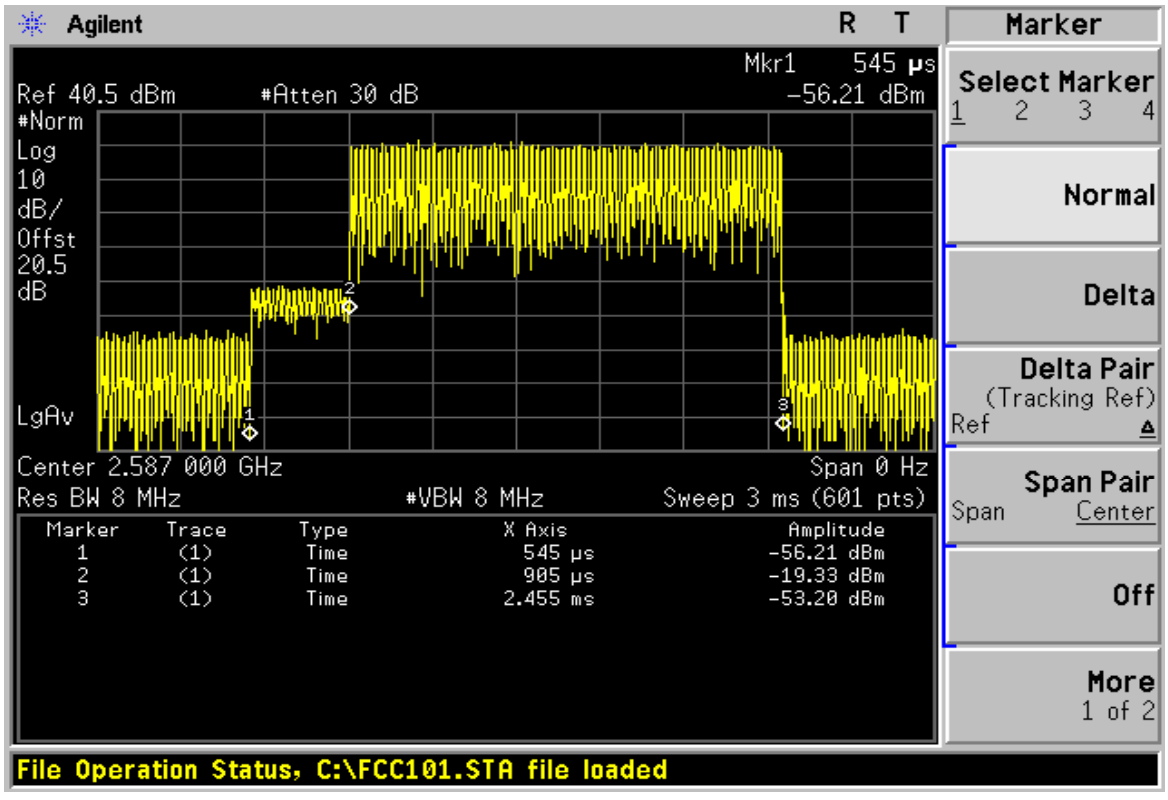
ZONE TYPE PUSC
MODULATION QPSK 3/4
BANDWIDTH 10MHz

FREQUENCY 2587 MHz

Plot 1



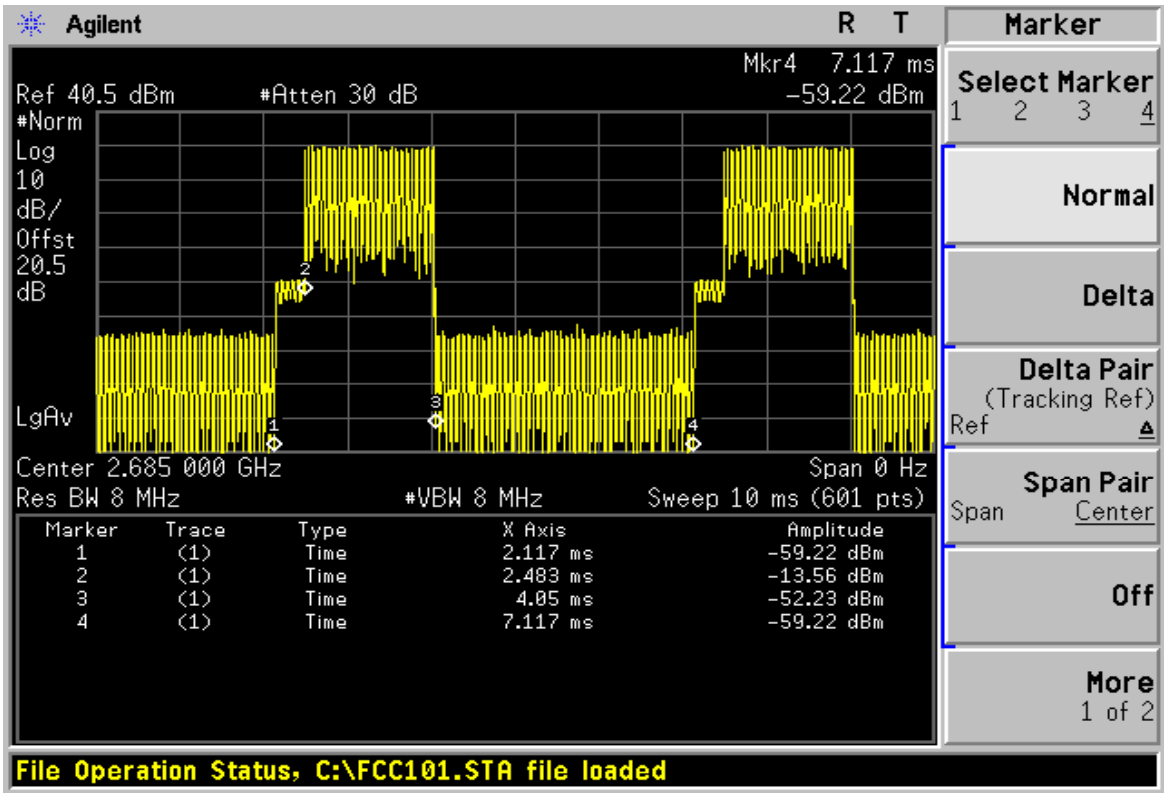
Plot 2



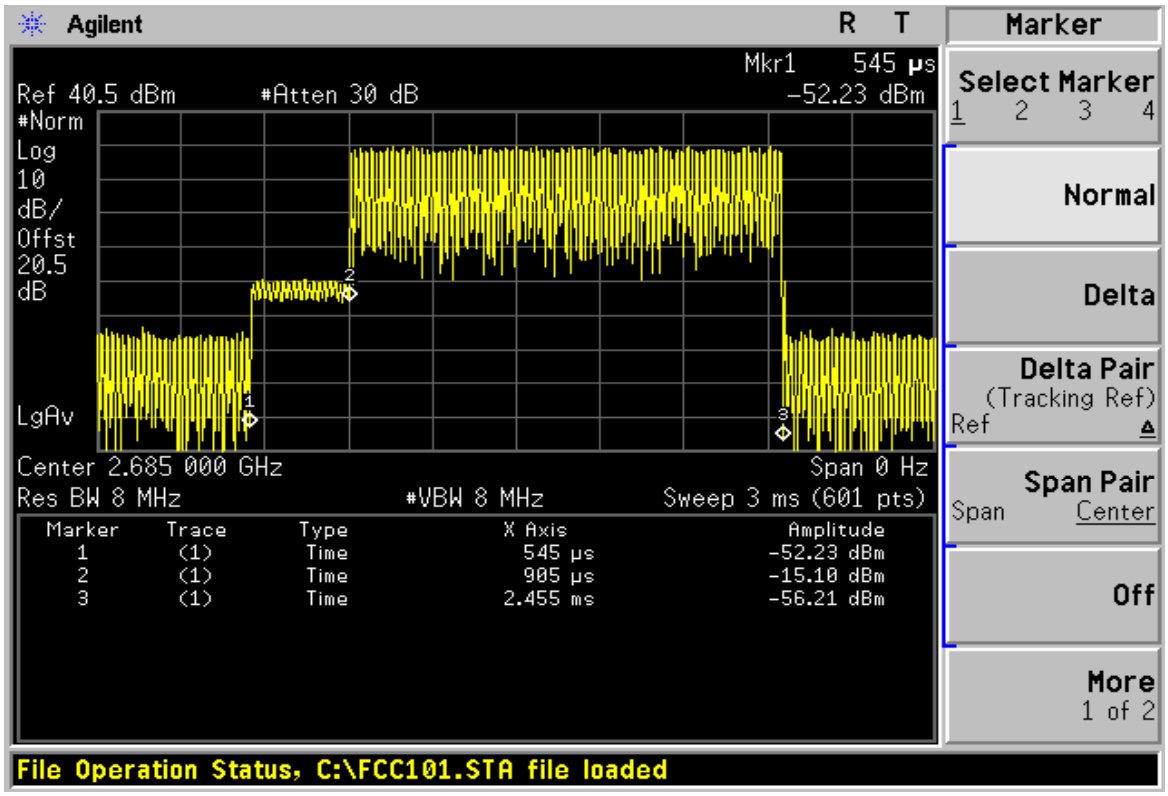
ZONE TYPE PUSC
MODULATION QPSK 3/4
BANDWIDTH 10MHz

FREQUENCY 2685 MHz

Plot 1



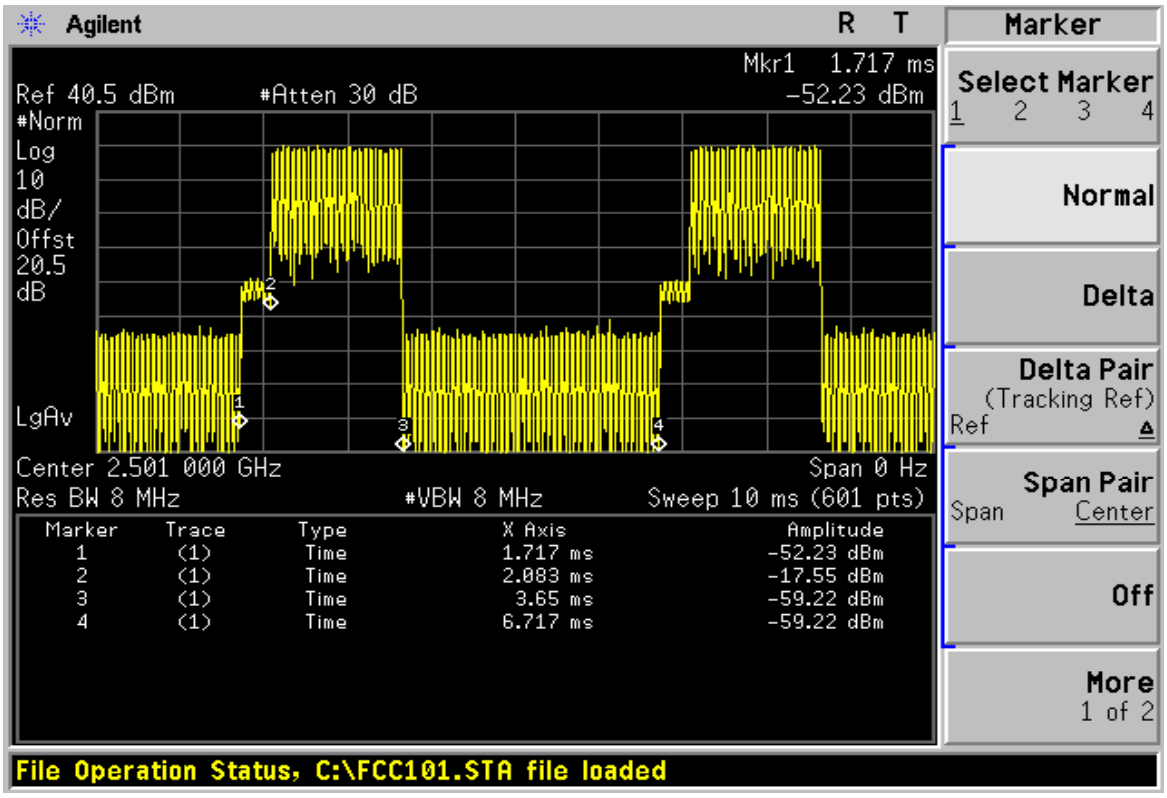
Plot 2



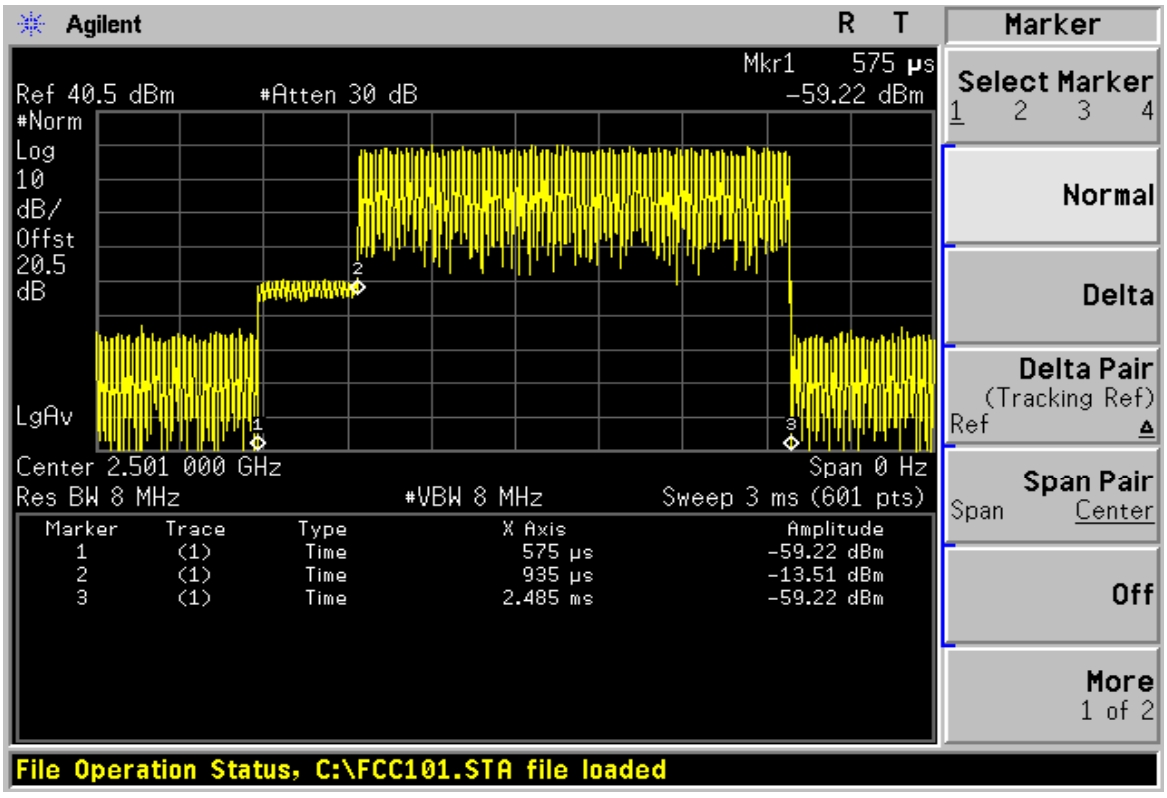
ZONE TYPE PUSC
MODULATION 16QAM 1/2
BANDWIDTH 10MHz

FREQUENCY 2501 MHz

Plot 1



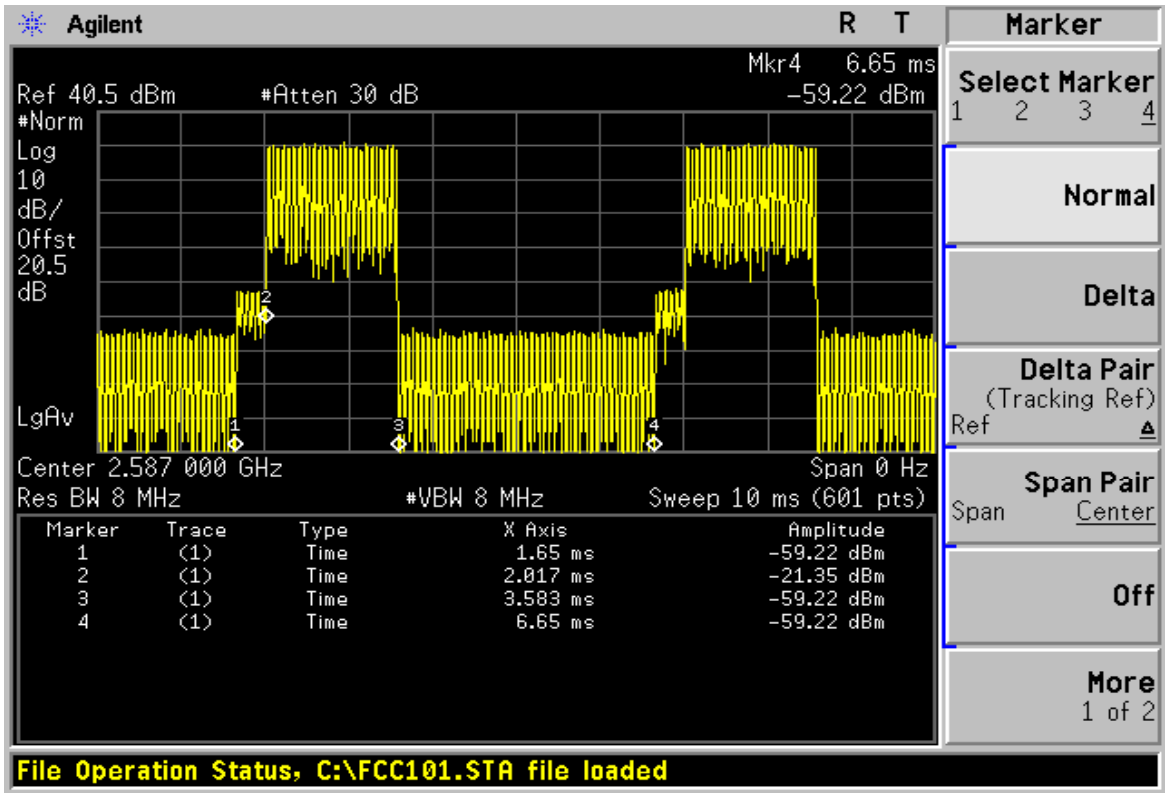
Plot 2



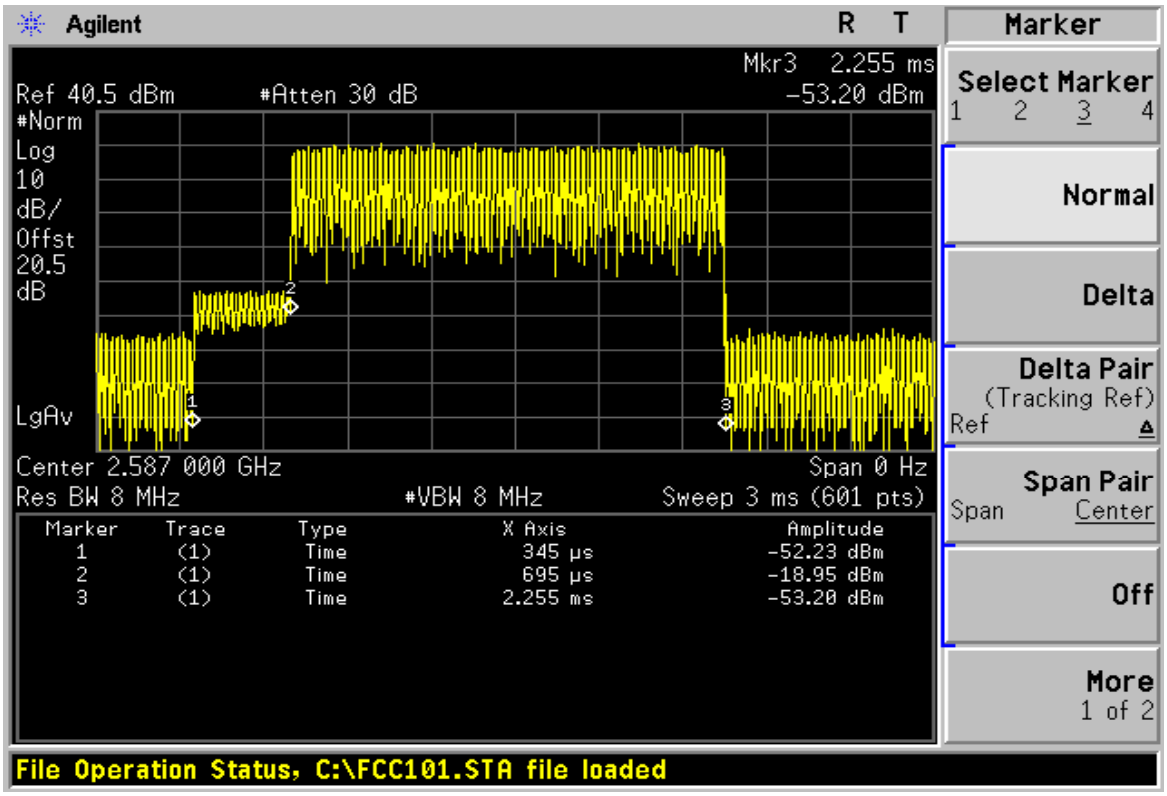
ZONE TYPE PUSC
MODULATION 16QAM 1/2
BANDWIDTH 10MHz

FREQUENCY 2587 MHz

Plot 1



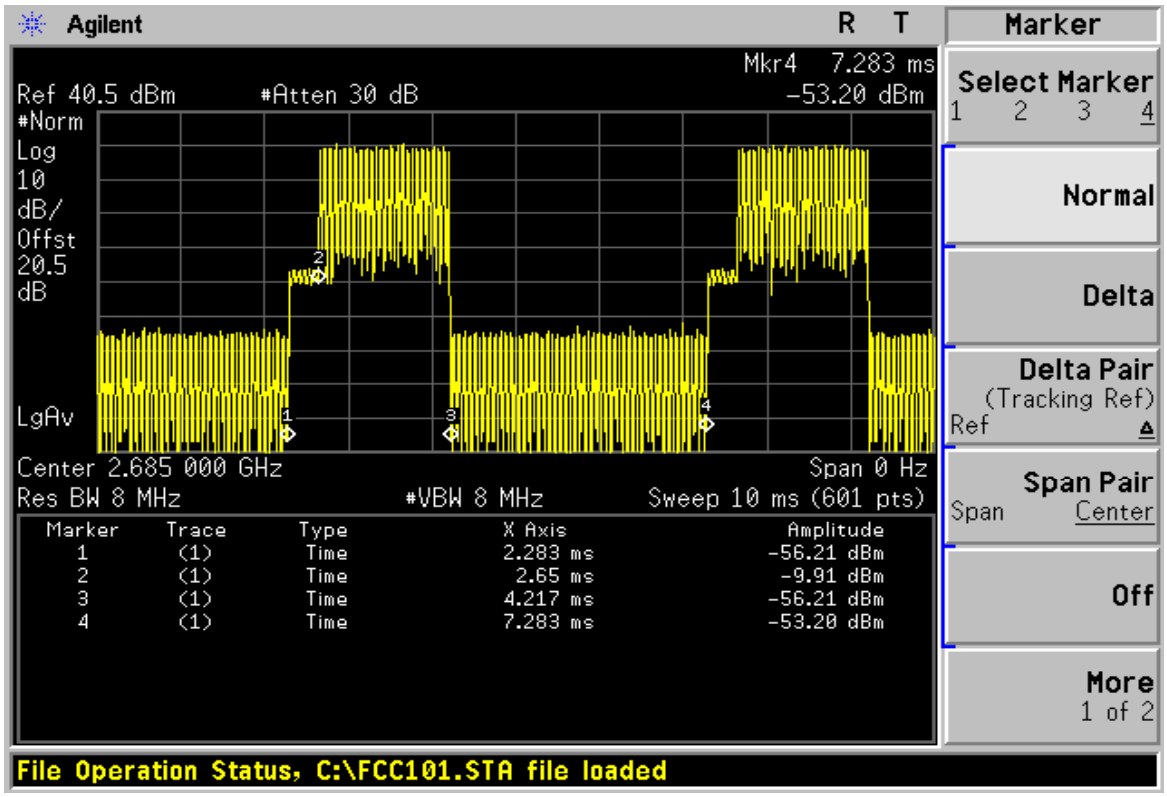
Plot 2



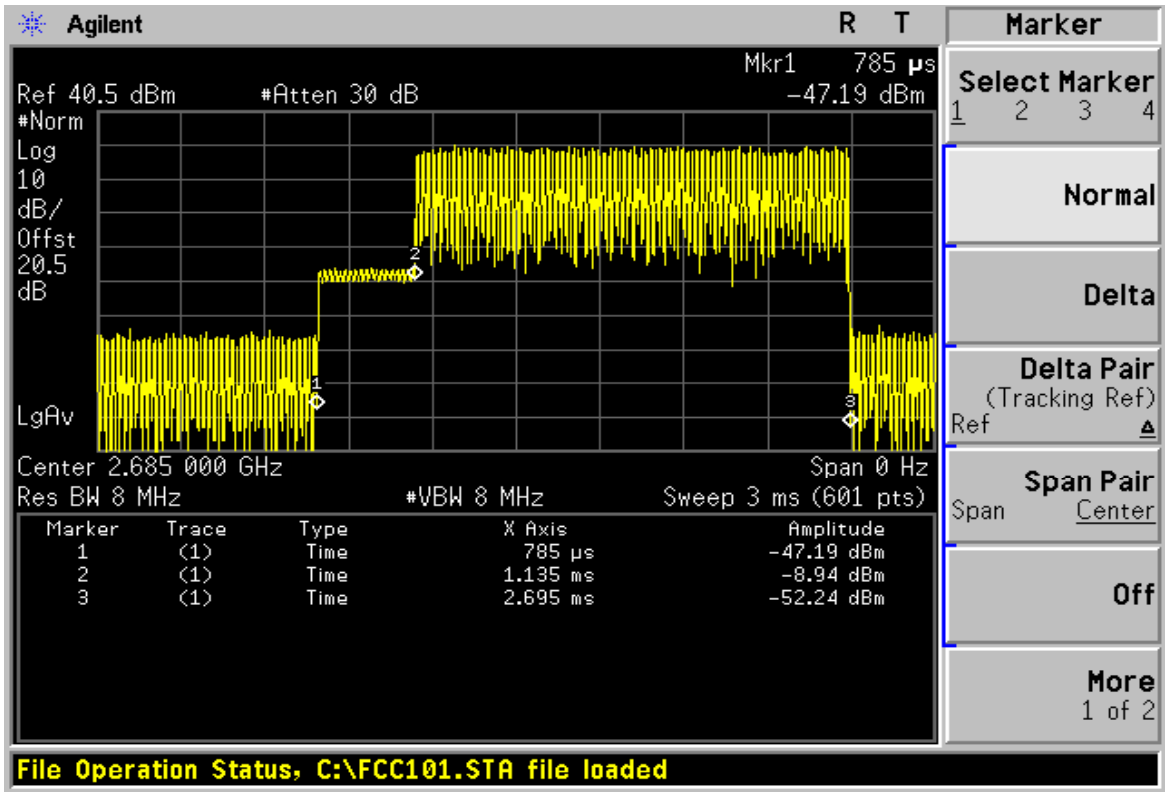
ZONE TYPE PUSC
MODULATION 16QAM 1/2
BANDWIDTH 10MHz

FREQUENCY 2685 MHz

Plot 1



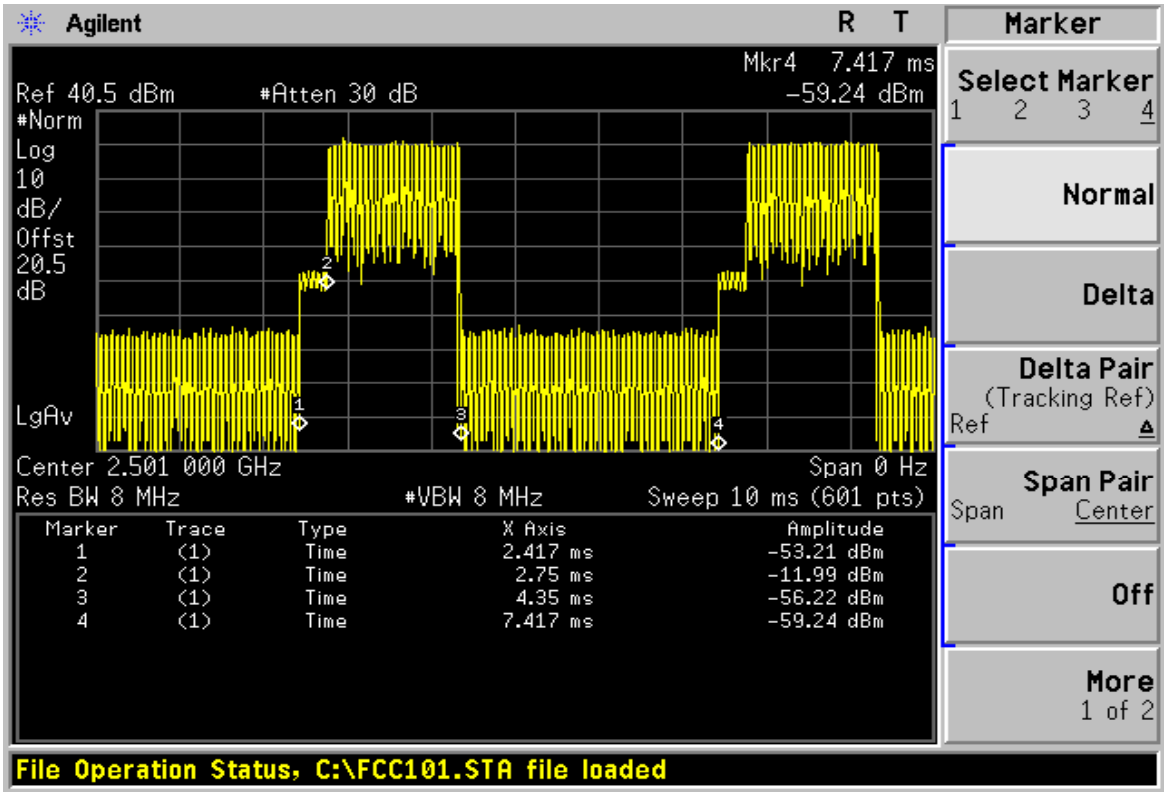
Plot 2



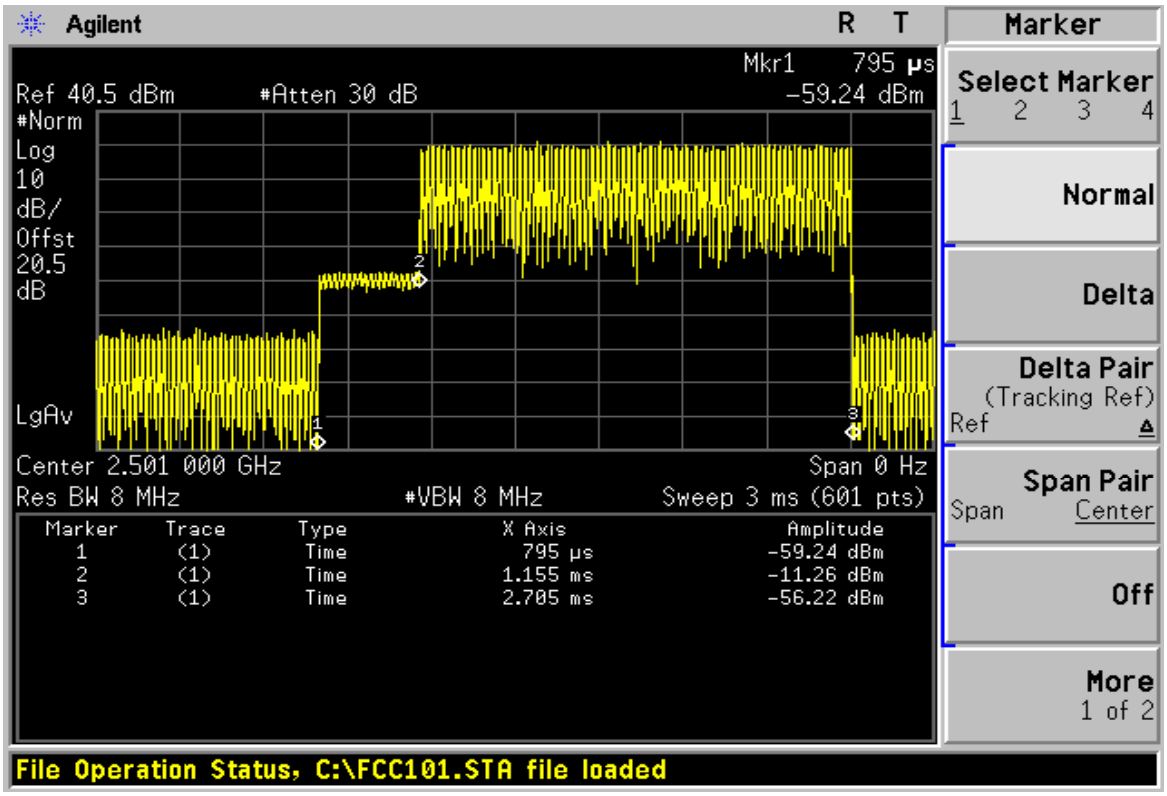
ZONE TYPE PUSC
MODULATION 16QAM 3/4
BANDWIDTH 10MHz

FREQUENCY 2501 MHz

Plot 1



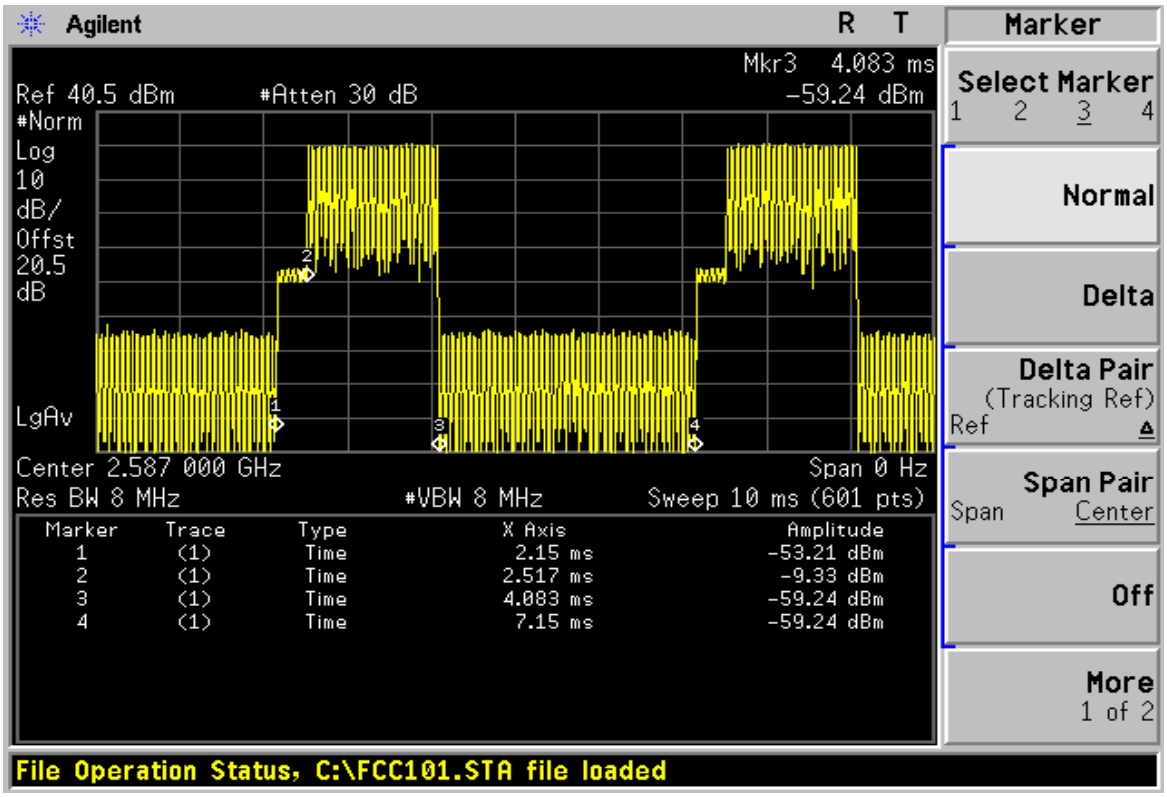
Plot 2



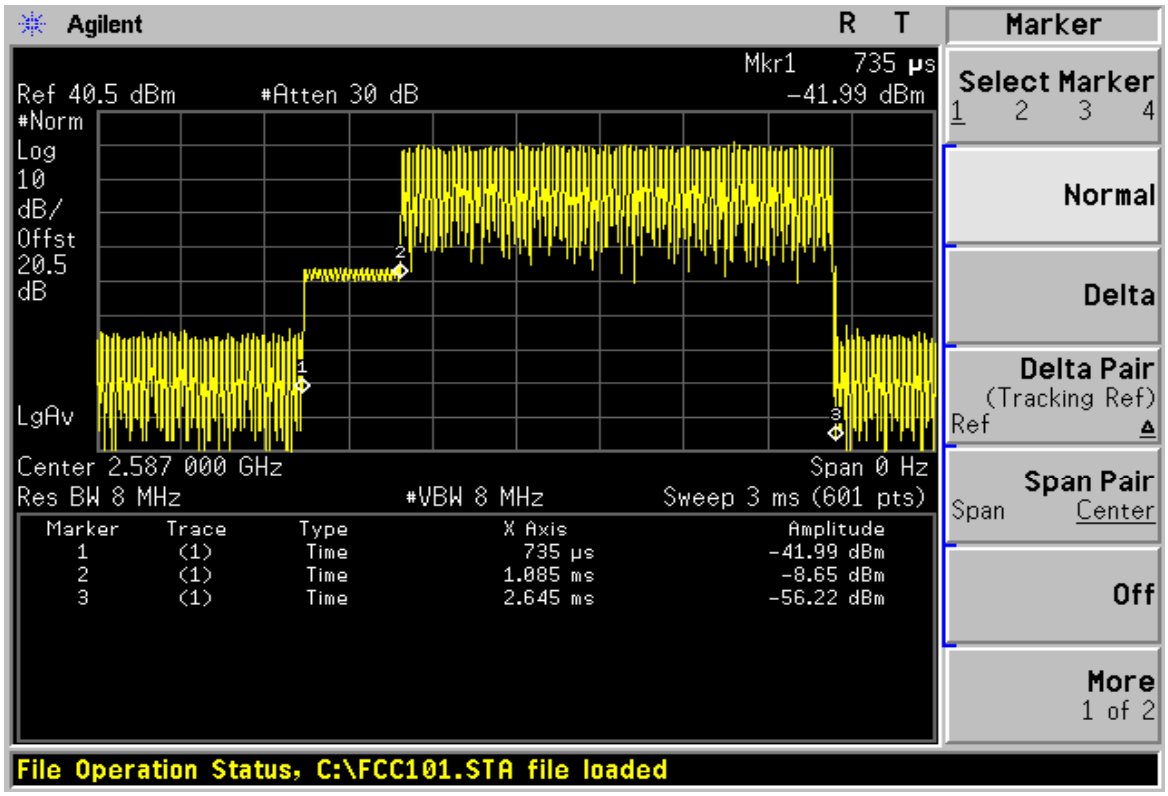
ZONE TYPE PUSC
MODULATION 16QAM 3/4
BANDWIDTH 10MHz

FREQUENCY 2587 MHz

Plot 1



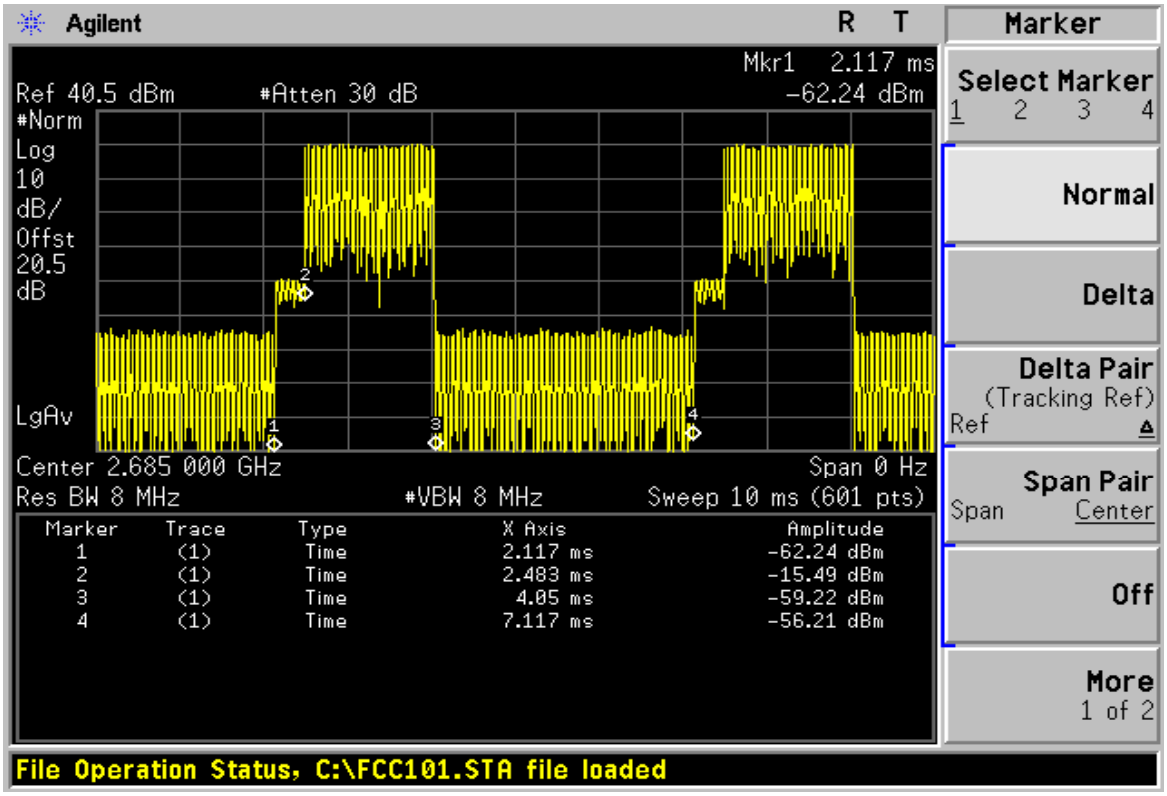
Plot 2



ZONE TYPE PUSC
MODULATION 16QAM 3/4
BANDWIDTH 10MHz

FREQUENCY 2685 MHz

Plot 1



Plot 2