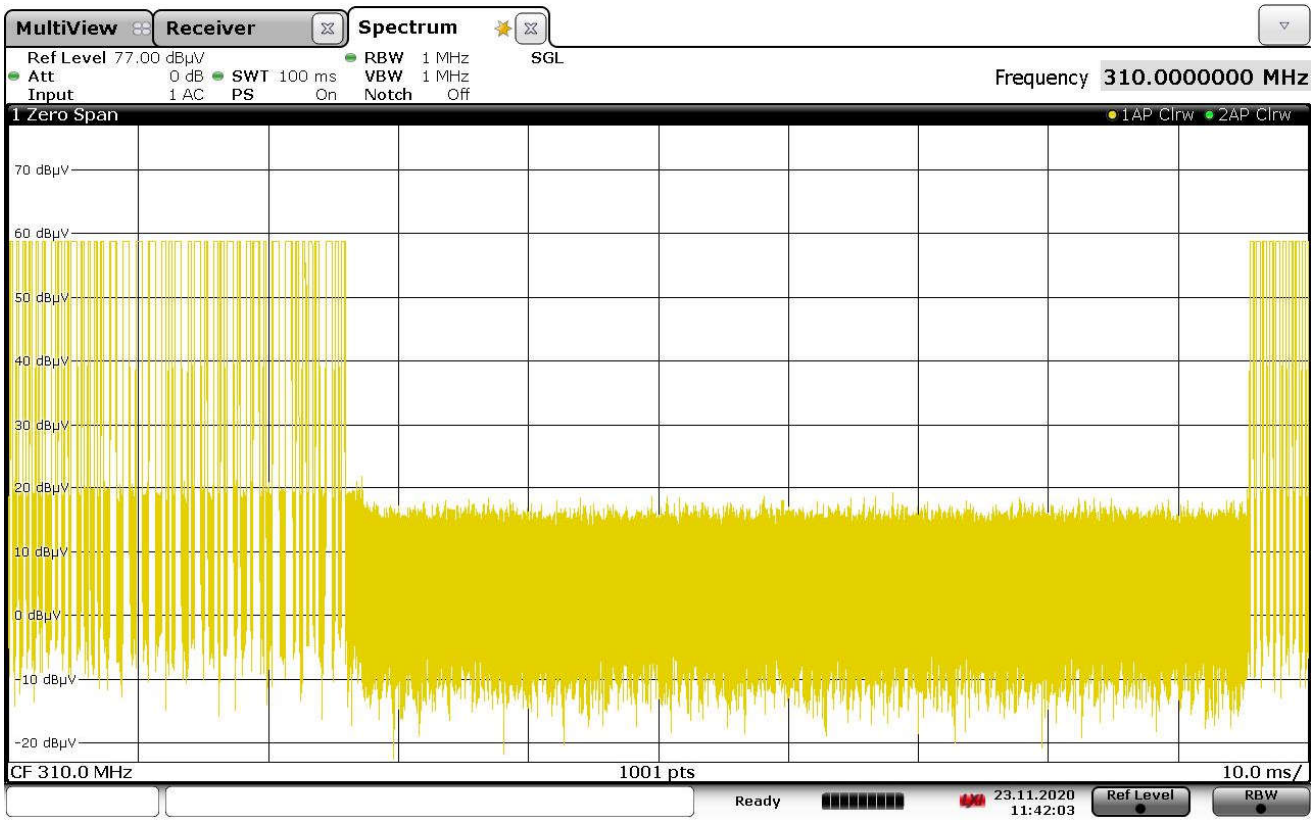
DATA PAGE	
MANUFACTURER	The Chamberlain Group, Inc.
EUT	Automotive Transceiver for Garage Door Control
MODEL NO.	CMRAA0101E3 (ARQ2-UGDO)
TEST	FCC §15.231, RSS-210 Duty Cycle
MODE	Tx
FREQUENCY TESTED	310MHz (E Code)
DATE TESTED	November 17, 2020
TEST PERFORMED BY	Tylar Jozefczyk
NOTES	Duty Cycle Calculation: 13 × 0.5ms = 6.5ms 34 × 0.25ms = 8.5ms 6.5 + 8.5 = 15.00ms D.C = 20log(15/100) = **-16.48dB**

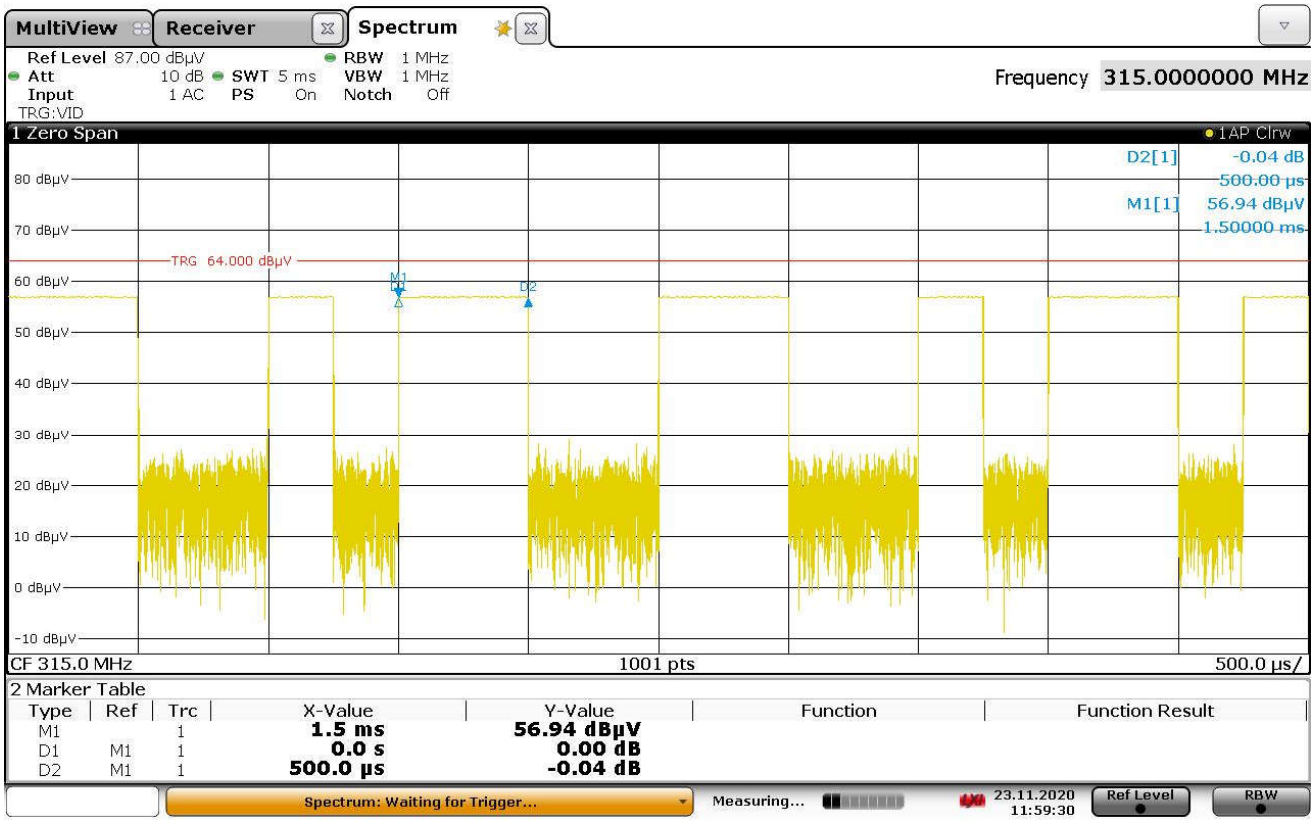
DUTY CYCLE



11:42:04 23.11.2020

DATA PAGE	
MANUFACTURER	The Chamberlain Group, Inc.
EUT	Automotive Transceiver for Garage Door Control
MODEL NO.	CMRAA0101E3 (ARQ2-UGDO)
TEST	FCC §15.231, RSS-210 Duty Cycle
MODE	Tx
FREQUENCY TESTED	315MHz (E Code)
DATE TESTED	November 17, 2020
TEST PERFORMED BY	Tylar Jozefczyk
NOTES	Wide Pulse = 500µs = 0.5ms

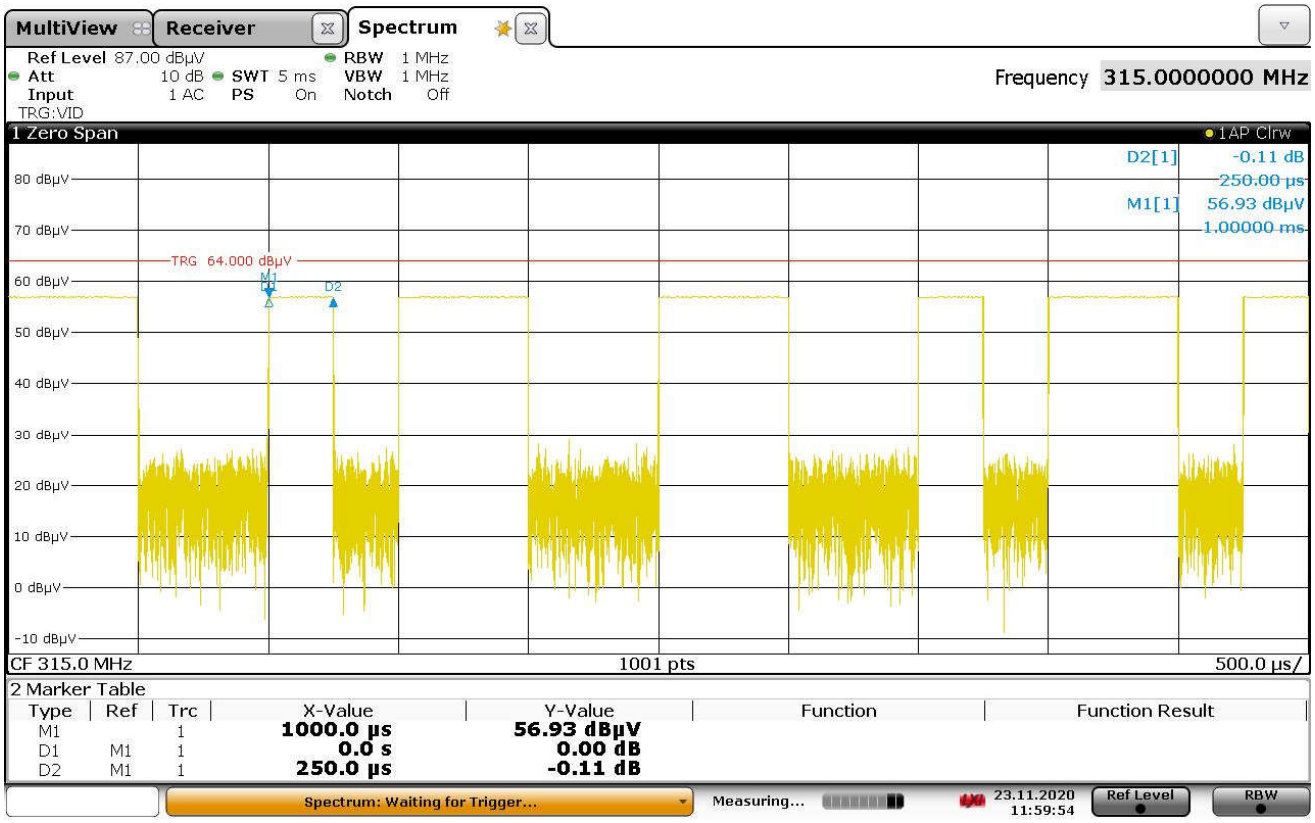
DUTY CYCLE – WIDE PULSE



11:59:31 23.11.2020

DATA PAGE	
MANUFACTURER	The Chamberlain Group, Inc.
EUT	Automotive Transceiver for Garage Door Control
MODEL NO.	CMRAA0101E3 (ARQ2-UGDO)
TEST	FCC §15.231, RSS-210 Duty Cycle
MODE	Tx
FREQUENCY TESTED	315MHz (E Code)
DATE TESTED	November 17, 2020
TEST PERFORMED BY	Tylar Jozefczyk
NOTES	Narrow Pulse = 250µs = 0.25ms

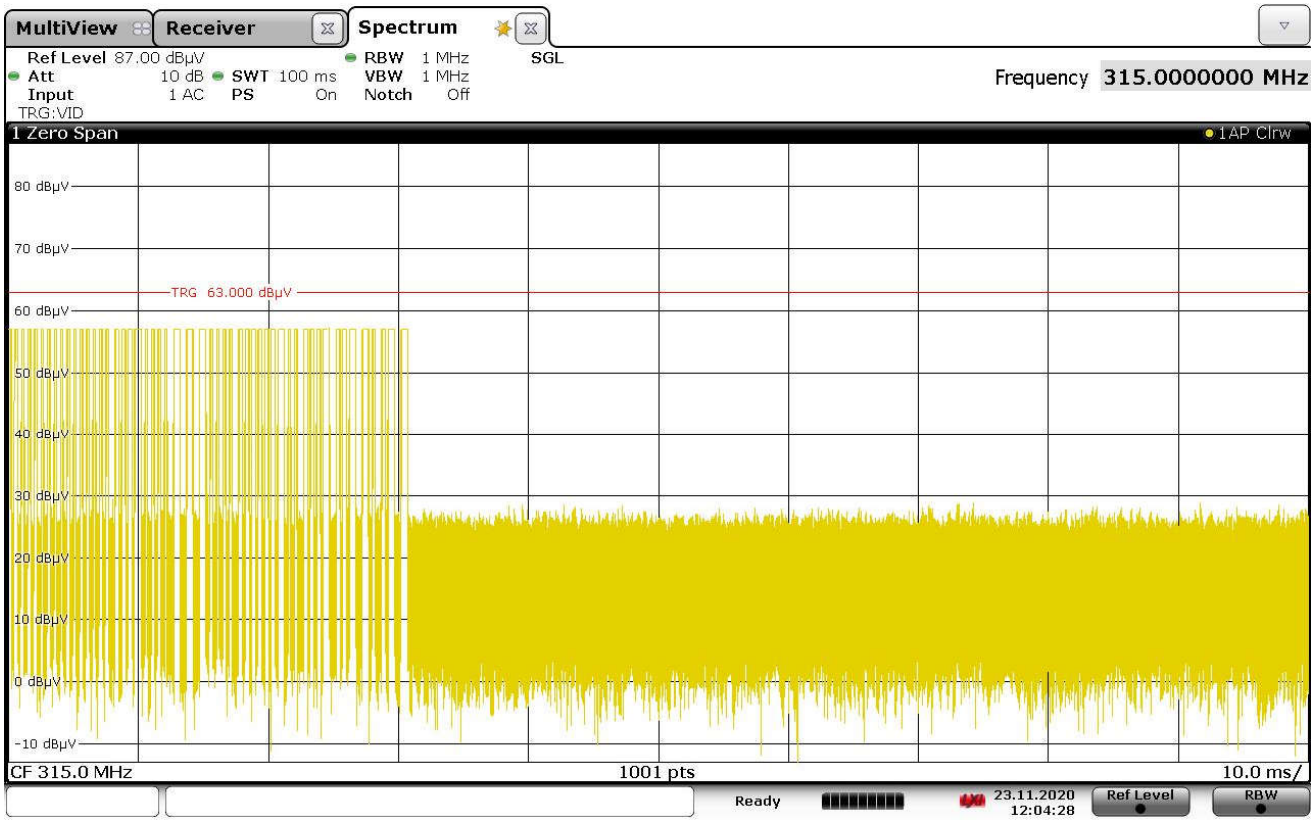
DUTY CYCLE – NARROW PULSE



11:59:55 23.11.2020

DATA PAGE	
MANUFACTURER	The Chamberlain Group, Inc.
EUT	Automotive Transceiver for Garage Door Control
MODEL NO.	CMRAA0101E3 (ARQ2-UGDO)
TEST	FCC §15.231, RSS-210 Duty Cycle
MODE	Tx
FREQUENCY TESTED	315MHz (E Code)
DATE TESTED	November 17, 2020
TEST PERFORMED BY	Tylar Jozefczyk
NOTES	Duty Cycle Calculation: 10 × 0.5ms = 5.0ms 40 × 0.25ms = 10.0ms 5.00 + 10.0 = 15.0ms D.C = 20log(15/100) = **-16.48dB**

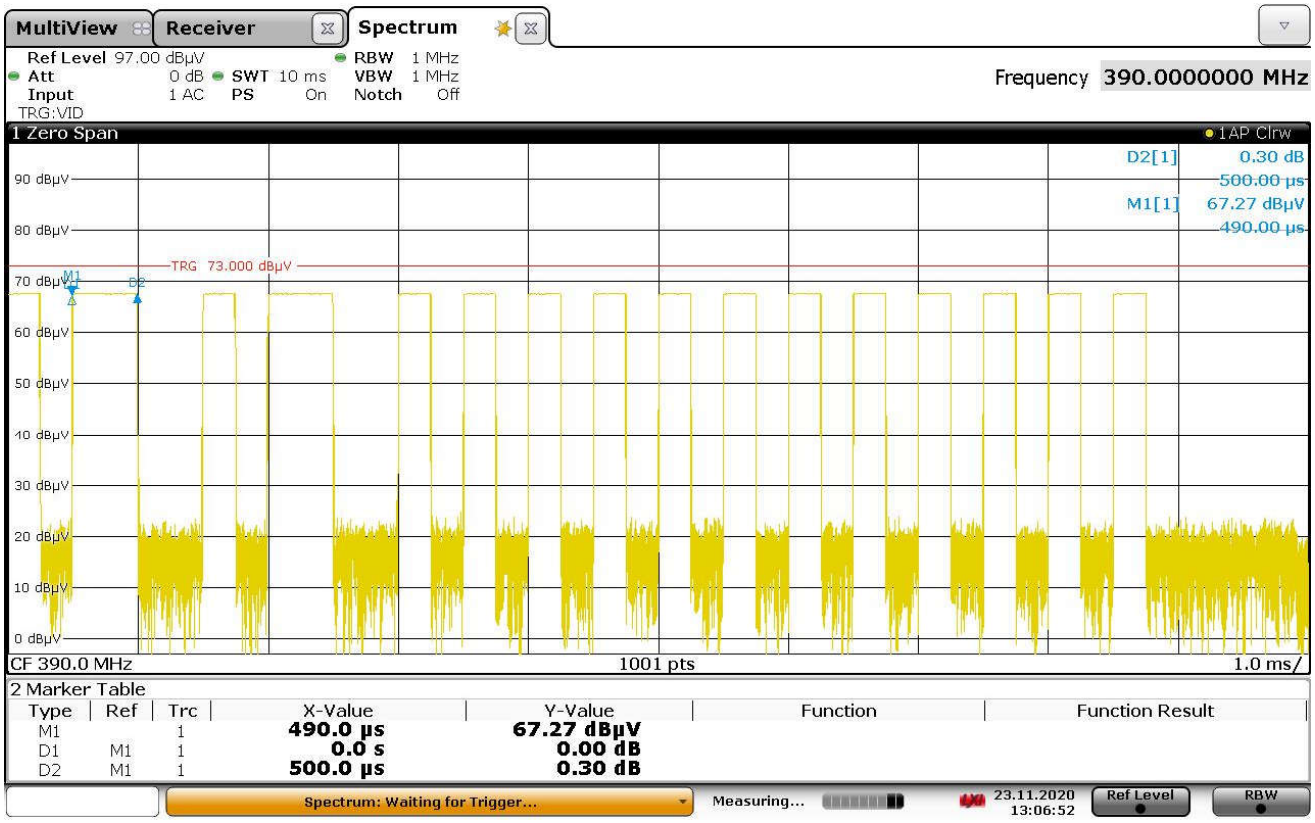
DUTY CYCLE



12:04:29 23.11.2020

DATA PAGE	
MANUFACTURER	The Chamberlain Group, Inc.
EUT	Automotive Transceiver for Garage Door Control
MODEL NO.	CMRAA0101E3 (ARQ2-UGDO)
TEST	FCC §15.231, RSS-210 Duty Cycle
MODE	Tx
FREQUENCY TESTED	390MHz (E Code)
DATE TESTED	November 17, 2020
TEST PERFORMED BY	Tylar Jozefczyk
NOTES	Wide Pulse = 500µs = 0.5ms

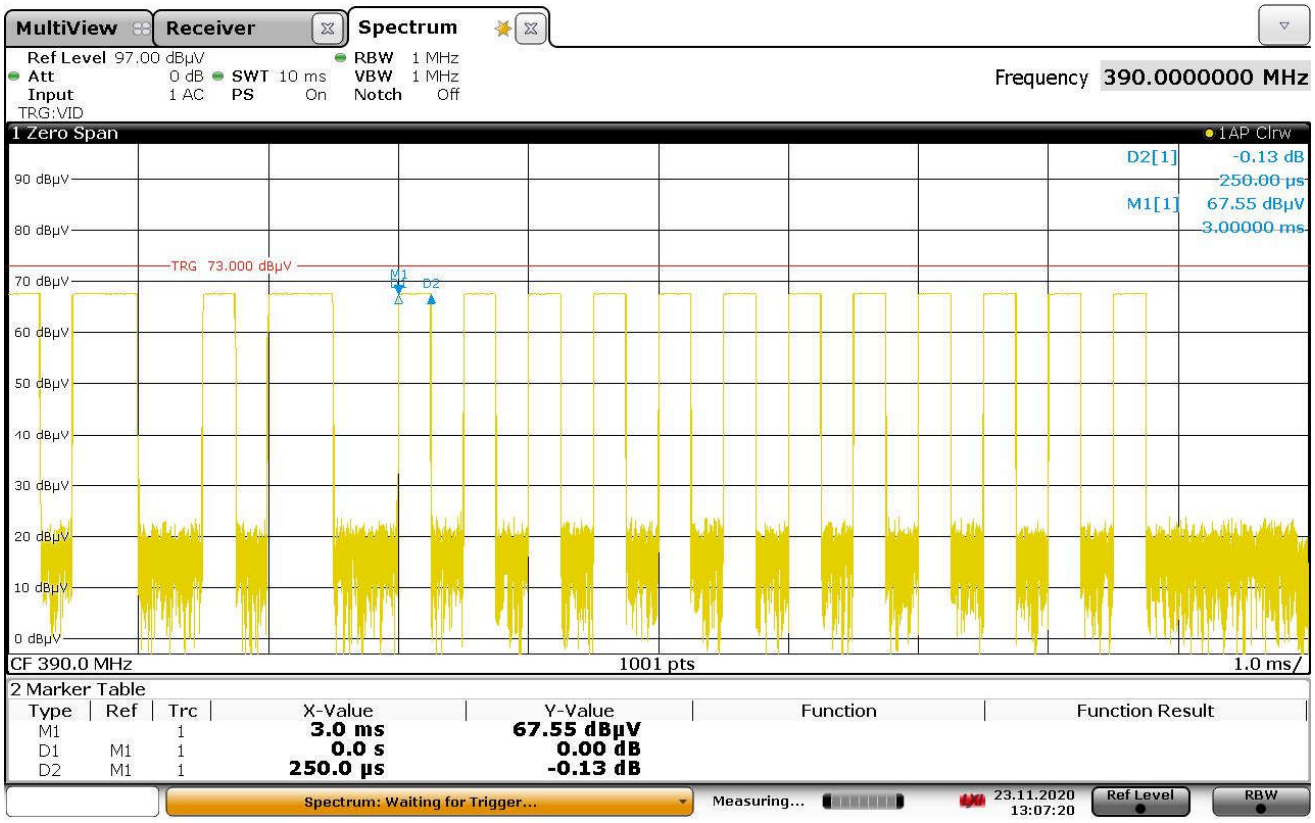
DUTY CYCLE – WIDE PULSE



13:06:52 23.11.2020

DATA PAGE	
MANUFACTURER	The Chamberlain Group, Inc.
EUT	Automotive Transceiver for Garage Door Control
MODEL NO.	CMRAA0101E3 (ARQ2-UGDO)
TEST	FCC §15.231, RSS-210 Duty Cycle
MODE	Tx
FREQUENCY TESTED	390MHz (E Code)
DATE TESTED	November 17, 2020
TEST PERFORMED BY	Tylar Jozefczyk
NOTES	Narrow Pulse = 250µs = 0.25ms

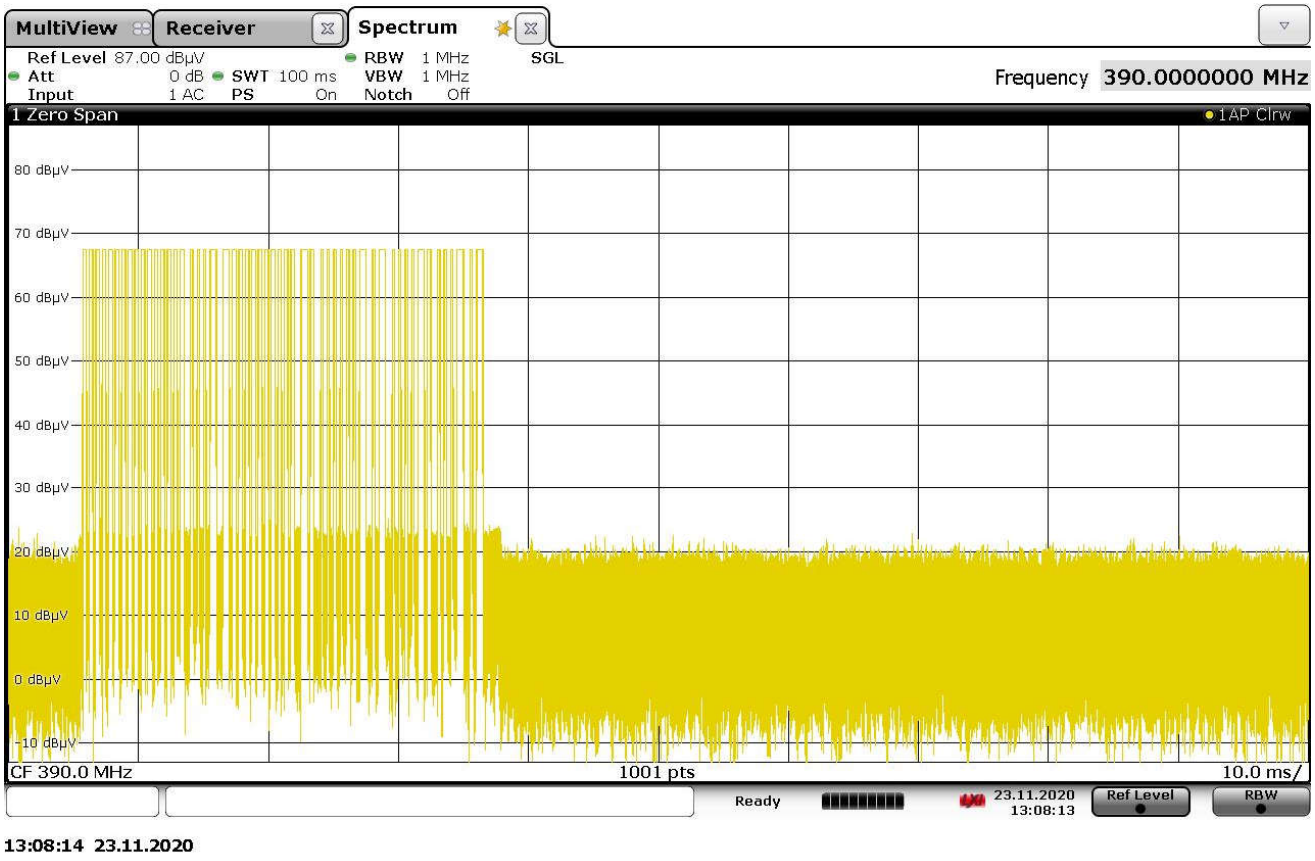
DUTY CYCLE – NARROW PULSE



13:07:21 23.11.2020

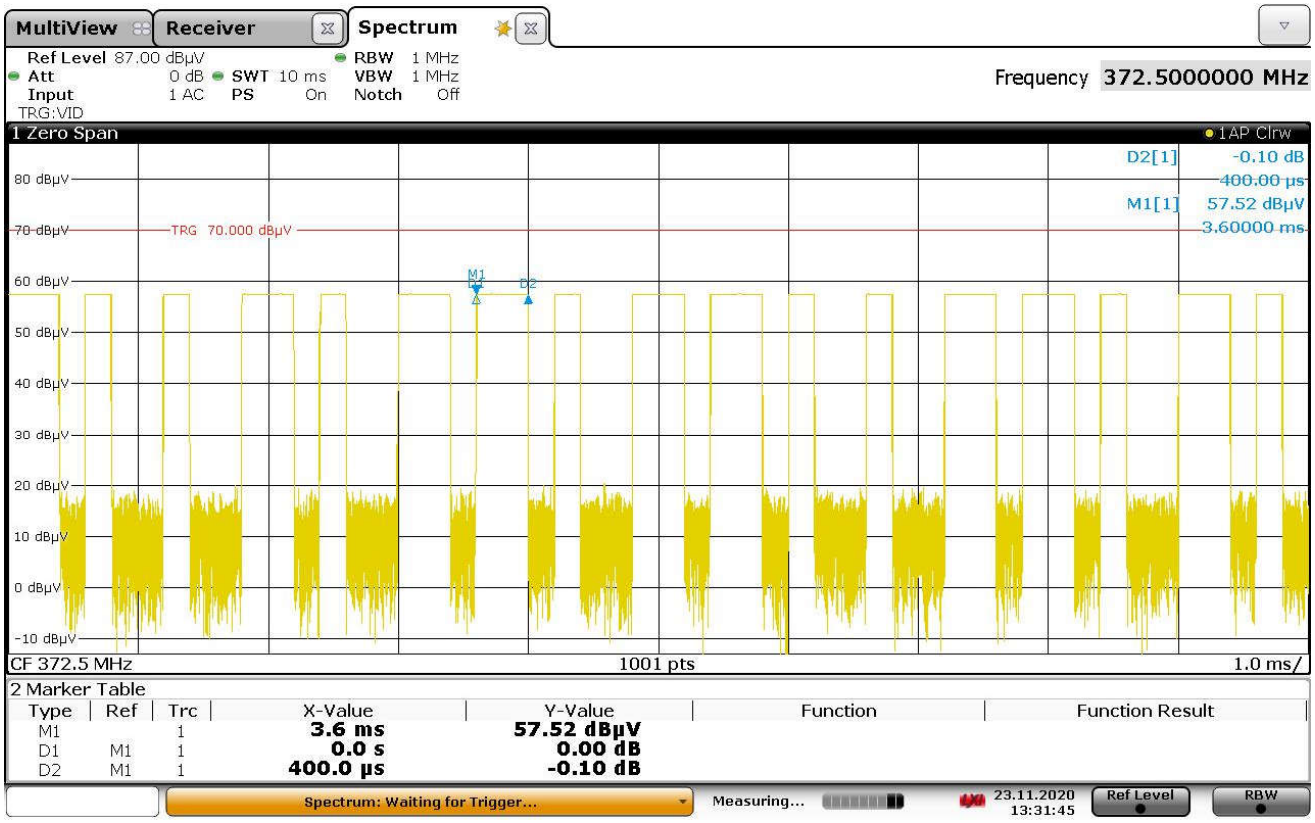
DATA PAGE	
MANUFACTURER	The Chamberlain Group, Inc.
EUT	Automotive Transceiver for Garage Door Control
MODEL NO.	CMRAA0101E3 (ARQ2-UGDO)
TEST	FCC §15.231, RSS-210 Duty Cycle
MODE	Tx
FREQUENCY TESTED	390MHz (E Code)
DATE TESTED	November 17, 2020
TEST PERFORMED BY	Tylar Jozefczyk
NOTES	Duty Cycle Calculation: 10 × 0.5ms = 5.0ms 43 × 0.25ms = 10.75ms 5.0 + 10.75 = 15.75ms D.C = 20log(15.75/100) = **-16.06dB**

DUTY CYCLE



DATA PAGE	
MANUFACTURER	The Chamberlain Group, Inc.
EUT	Automotive Transceiver for Garage Door Control
MODEL NO.	CMRAA0101E3 (ARQ2-UGDO)
TEST	FCC §15.231, RSS-210 Duty Cycle
MODE	Tx
FREQUENCY TESTED	372.5MHz (Rolling Code – Keeloq Based)
DATE TESTED	November 17, 2020
TEST PERFORMED BY	Tylar Jozefczyk
NOTES	Wide Pulse = 400µs = 0.4ms

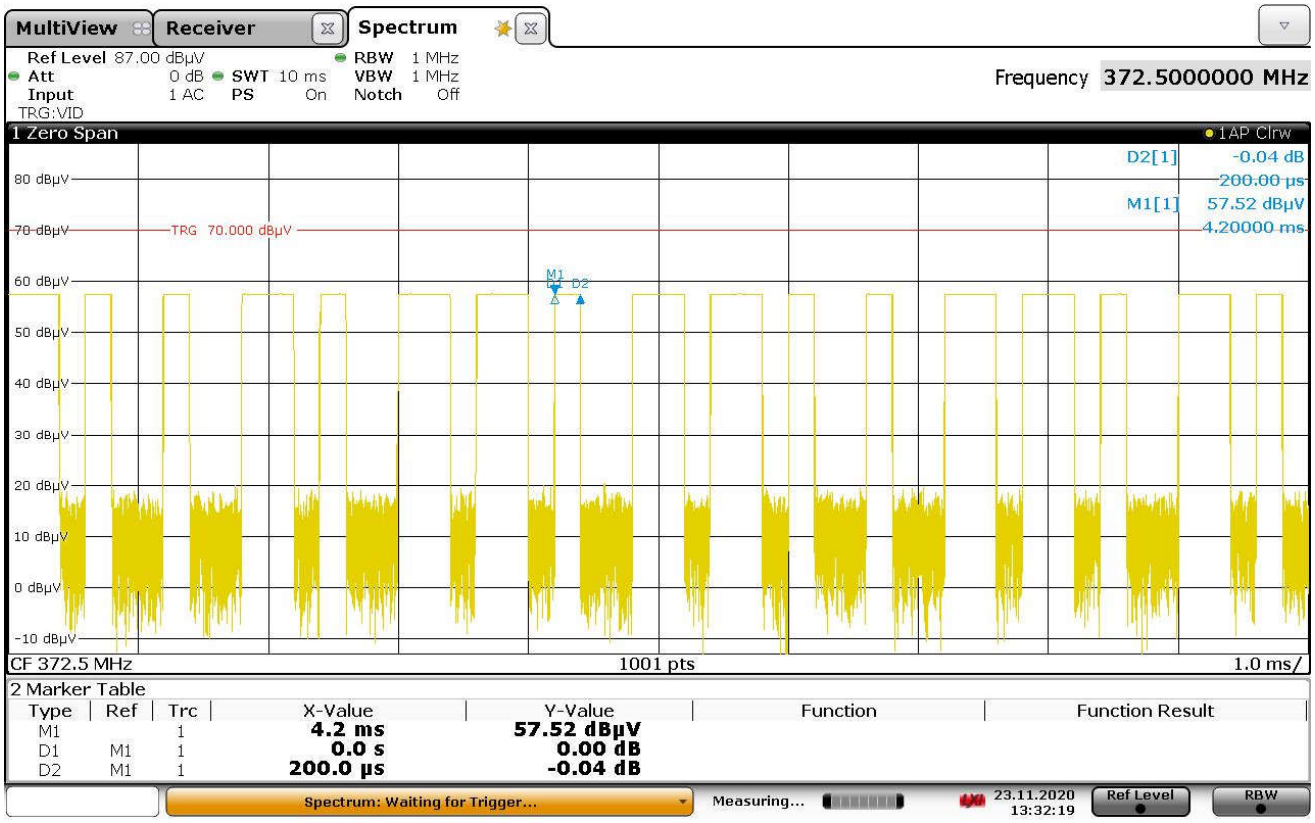
DUTY CYCLE – WIDE PULSE



13:31:46 23.11.2020

DATA PAGE	
MANUFACTURER	The Chamberlain Group, Inc.
EUT	Automotive Transceiver for Garage Door Control
MODEL NO.	CMRAA0101E3 (ARQ2-UGDO)
TEST	FCC §15.231, RSS-210 Duty Cycle
MODE	Tx
FREQUENCY TESTED	372.5MHz (Rolling Code – Keeloq Based)
DATE TESTED	November 17, 2020
TEST PERFORMED BY	Tylar Jozefczyk
NOTES	Narrow Pulse = 200µs = 0.2ms

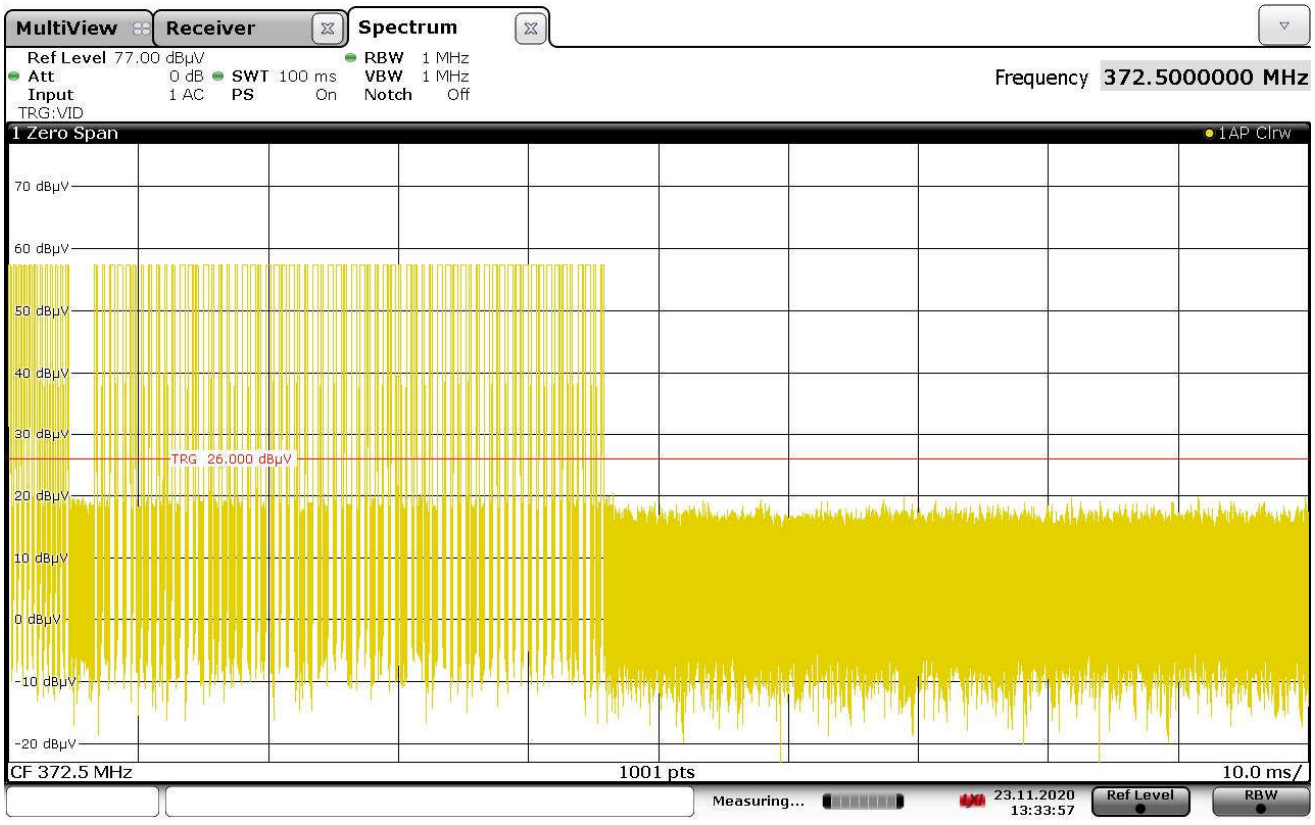
DUTY CYCLE – NARROW PULSE



13:32:19 23.11.2020

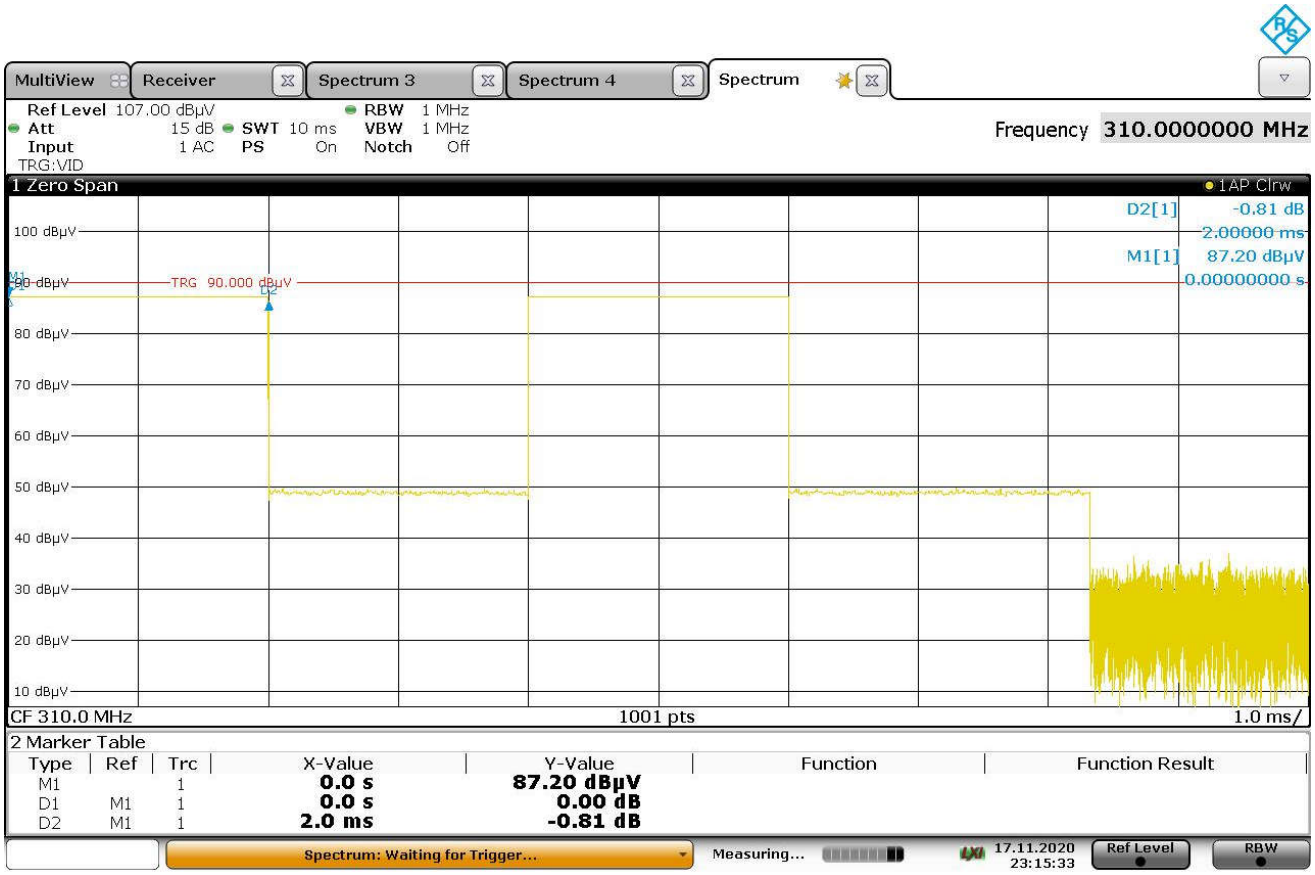
DATA PAGE	
MANUFACTURER	The Chamberlain Group, Inc.
EUT	Automotive Transceiver for Garage Door Control
MODEL NO.	CMRAA0101E3 (ARQ2-UGDO)
TEST	FCC §15.231, RSS-210 Duty Cycle
MODE	Tx
FREQUENCY TESTED	372.5MHz (Rolling Code – Keeloq Based)
DATE TESTED	November 17, 2020
TEST PERFORMED BY	Tylar Jozefczyk
NOTES	Duty Cycle Calculation: 37 × 0.4ms = 14.8ms 41 × 0.2ms = 8.2ms 14.8 + 8.2 = 23.0ms D.C = 20log(23/100) = **-12.765dB**

DUTY CYCLE



DATA PAGE	
MANUFACTURER	The Chamberlain Group, Inc.
EUT	Automotive Transceiver for Garage Door Control
MODEL NO.	CMRAA0101E3 (ARQ2-UGDO)
TEST	FCC §15.231, RSS-210 Duty Cycle
MODE	Tx
FREQUENCY TESTED	310MHz (8 DIP Code)
DATE TESTED	November 17, 2020
TEST PERFORMED BY	Tylar Jozefczyk
NOTES	Wide Pulse = 2.0ms

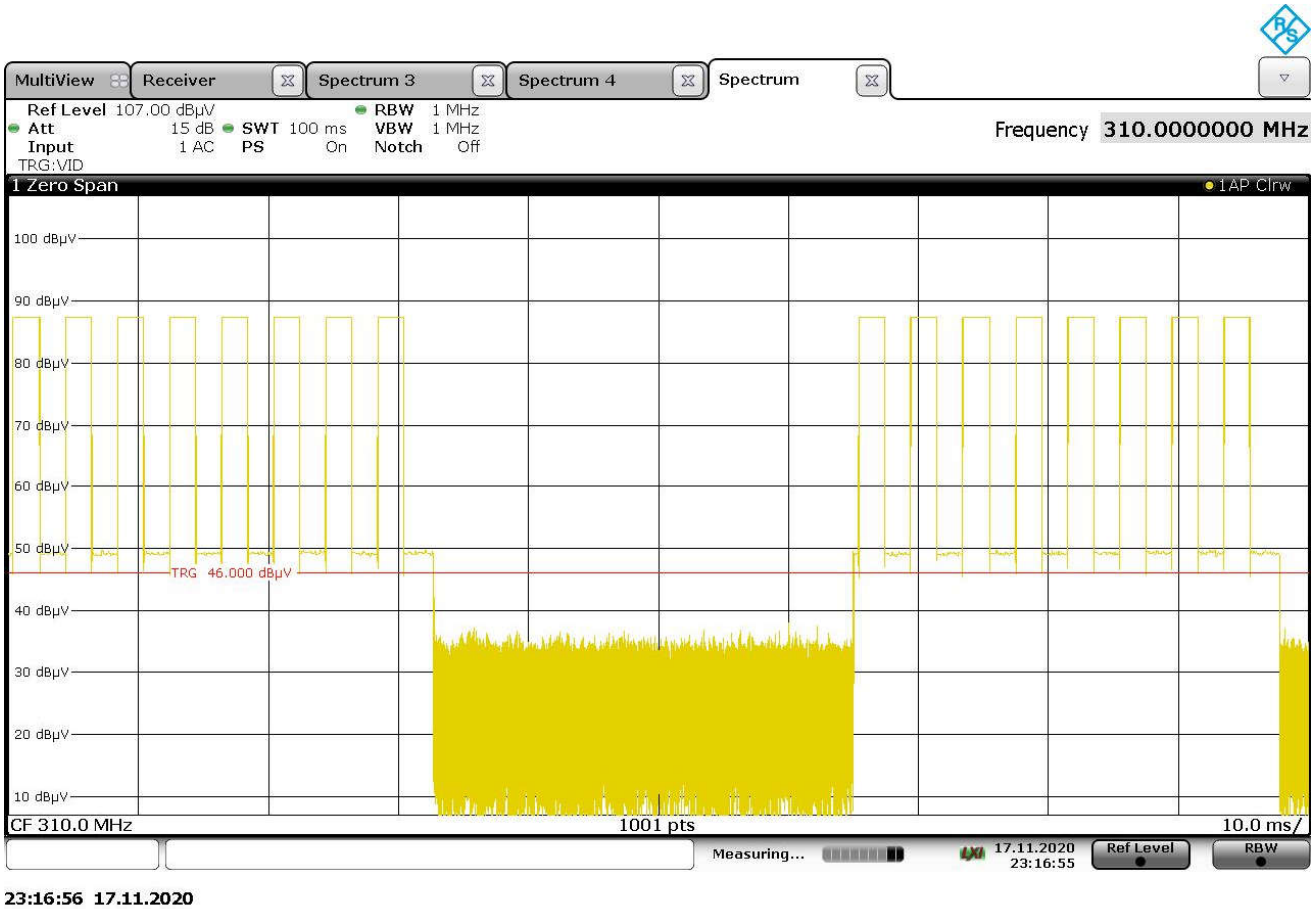
DUTY CYCLE – WIDE PULSE



23:15:34 17.11.2020

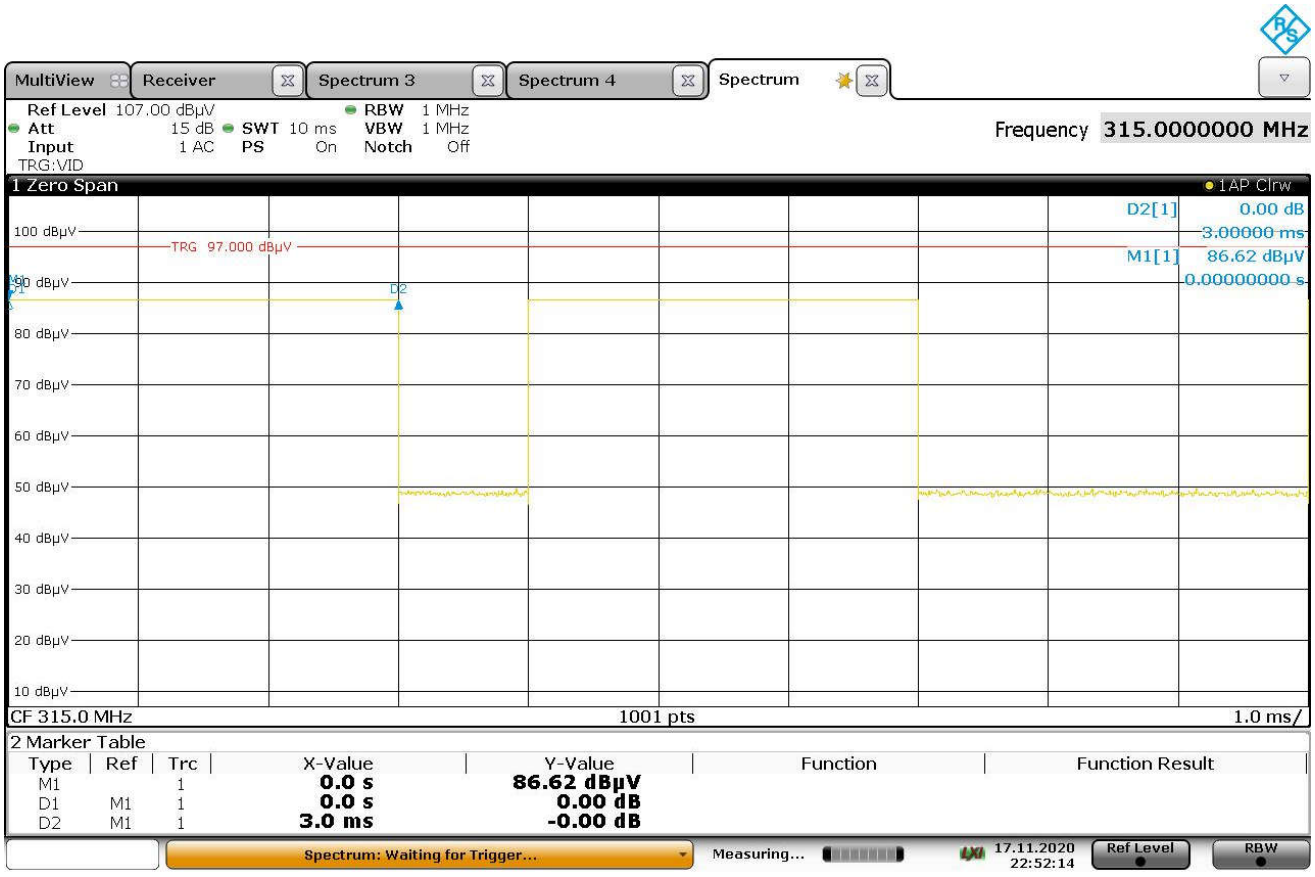
DATA PAGE	
MANUFACTURER	The Chamberlain Group, Inc.
EUT	Automotive Transceiver for Garage Door Control
MODEL NO.	CMRAA0101E3 (ARQ2-UGDO)
TEST	FCC §15.231, RSS-210 Duty Cycle
MODE	Tx
FREQUENCY TESTED	310MHz (8 DIP Code)
DATE TESTED	November 17, 2020
TEST PERFORMED BY	Tylar Jozefczyk
NOTES	Duty Cycle Calculation: 16 × 2.0ms = 32.0ms D.C = 20log(32/100) = **-9.897dB**

DUTY CYCLE



DATA PAGE	
MANUFACTURER	The Chamberlain Group, Inc.
EUT	Automotive Transceiver for Garage Door Control
MODEL NO.	CMRAA0101E3 (ARQ2-UGDO)
TEST	FCC §15.231, RSS-210 Duty Cycle
MODE	Tx
FREQUENCY TESTED	315MHz (9 DIP Code)
DATE TESTED	November 17, 2020
TEST PERFORMED BY	Tylar Jozefczyk
NOTES	Wide Pulse = 3.0ms

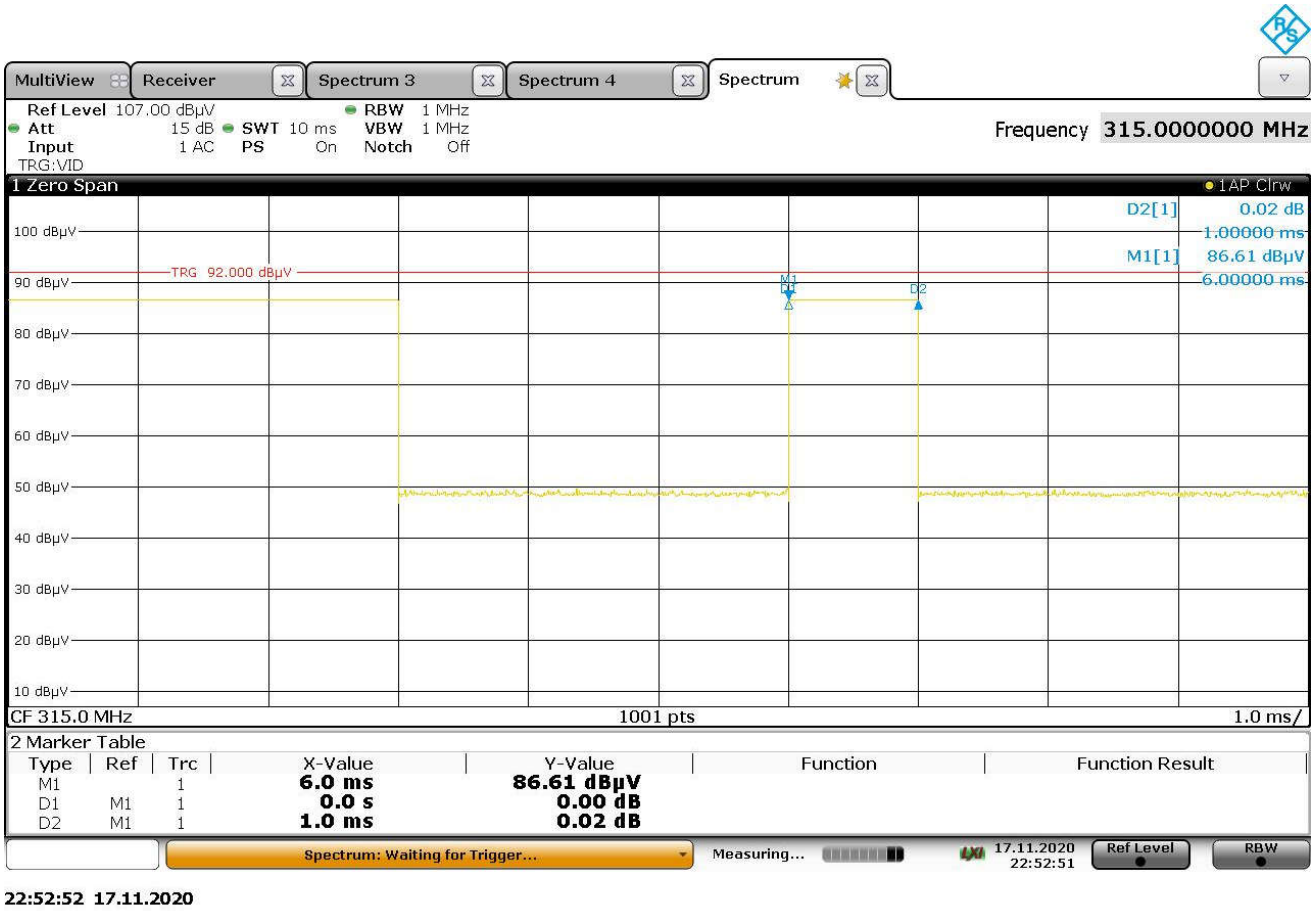
DUTY CYCLE – WIDE PULSE



22:52:14 17.11.2020

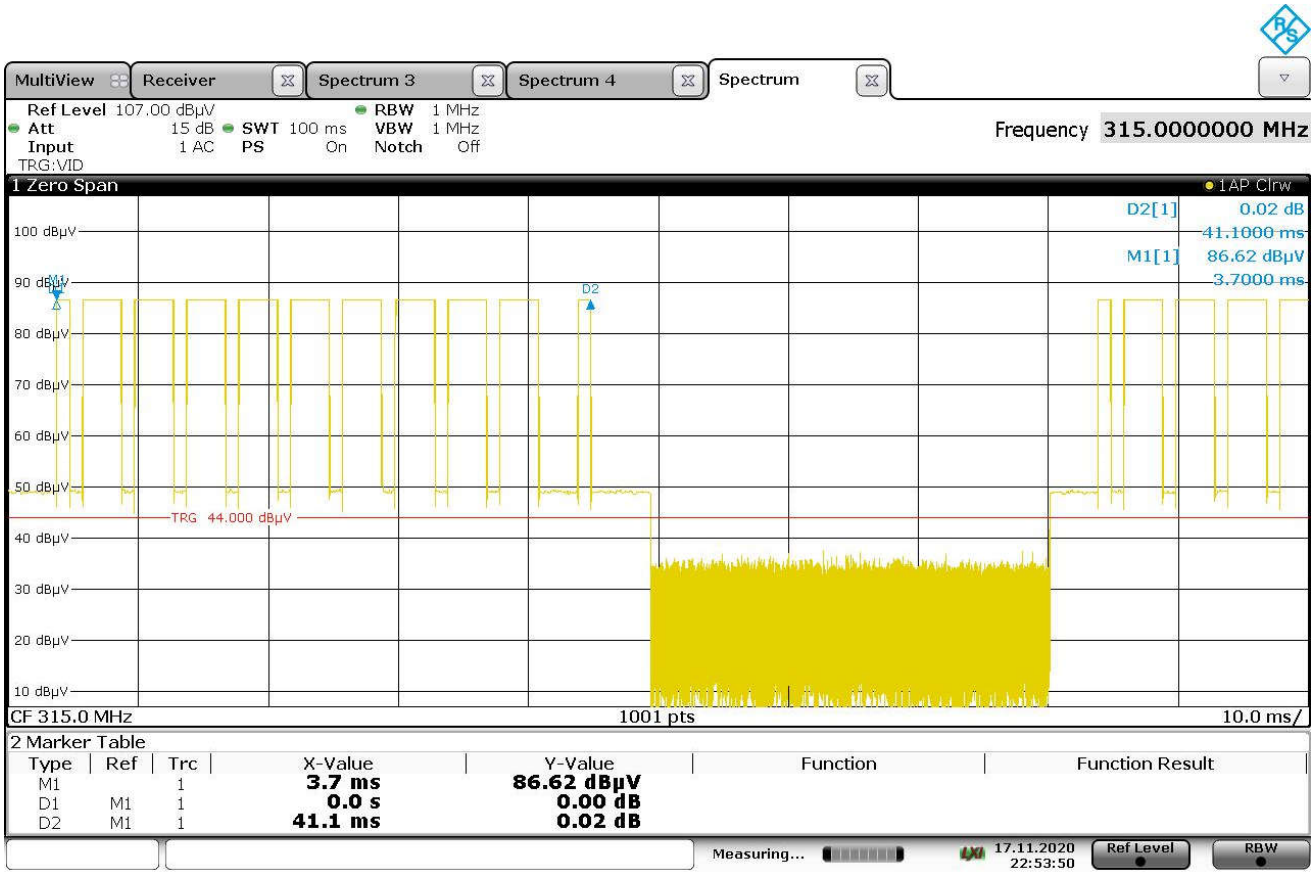
DATA PAGE	
MANUFACTURER	The Chamberlain Group, Inc.
EUT	Automotive Transceiver for Garage Door Control
MODEL NO.	CMRAA0101E3 (ARQ2-UGDO)
TEST	FCC §15.231, RSS-210 Duty Cycle
MODE	Tx
FREQUENCY TESTED	315MHz (9 DIP Code)
DATE TESTED	November 17, 2020
TEST PERFORMED BY	Tylar Jozefczyk
NOTES	Narrow Pulse = 1.0ms

DUTY CYCLE – NARROW PULSE



DATA PAGE	
MANUFACTURER	The Chamberlain Group, Inc.
EUT	Automotive Transceiver for Garage Door Control
MODEL NO.	CMRAA0101E3 (ARQ2-UGDO)
TEST	FCC §15.231, RSS-210 Duty Cycle
MODE	Tx
FREQUENCY TESTED	315MHz (9 DIP Code)
DATE TESTED	November 17, 2020
TEST PERFORMED BY	Tylar Jozefczyk
NOTES	Duty Cycle Calculation: 12.5 × 3.0ms = 37.5ms 3 × 1.0ms = 3.0ms 37.5 + 3.0 = 40.5ms D.C = 20log(40.5/100) = **-7.85dB**

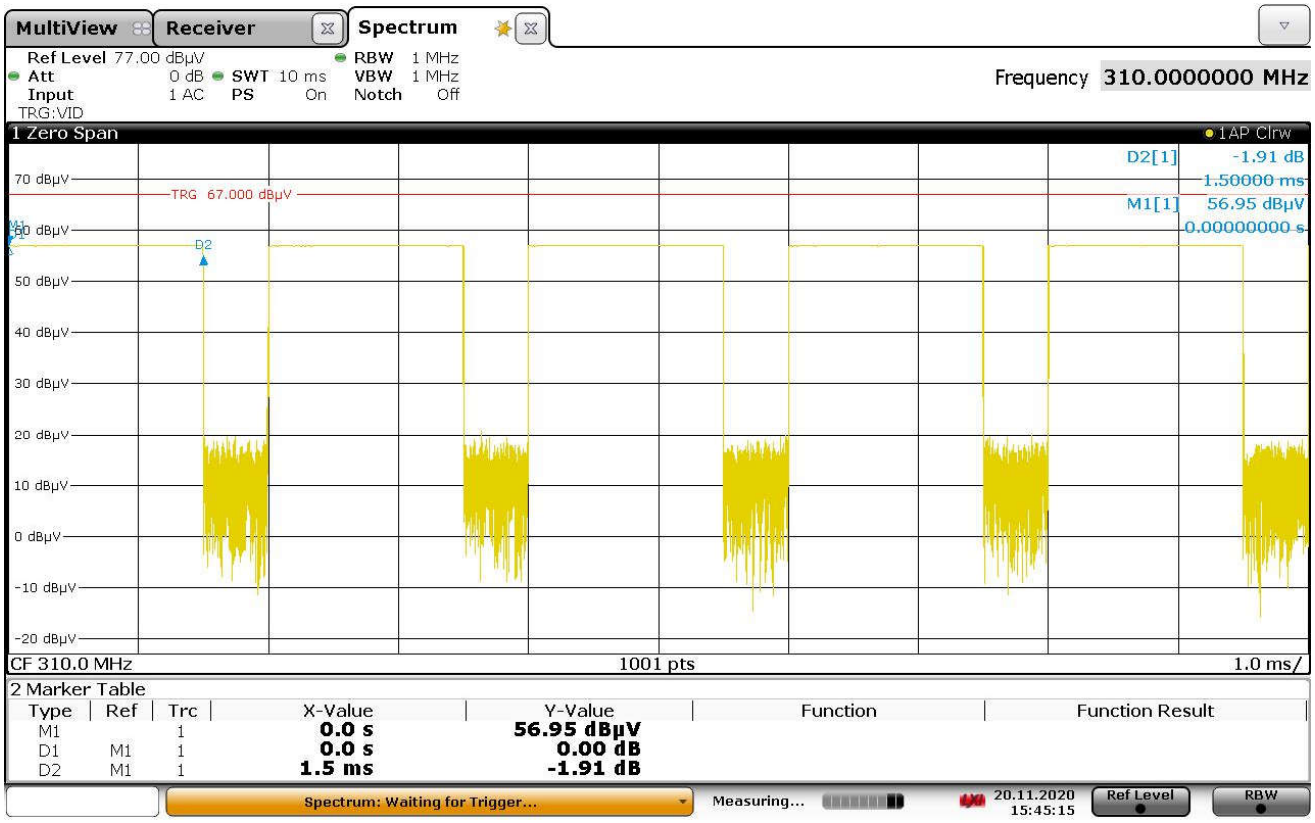
DUTY CYCLE



22:53:51 17.11.2020

DATA PAGE	
MANUFACTURER	The Chamberlain Group, Inc.
EUT	Automotive Transceiver for Garage Door Control
MODEL NO.	CMRAA0101E3 (ARQ2-UGDO)
TEST	FCC §15.231, RSS-210 Duty Cycle
MODE	Tx
FREQUENCY TESTED	310MHz (10 DIP Code)
DATE TESTED	November 17, 2020
TEST PERFORMED BY	Tylar Jozefczyk
NOTES	Wide Pulse = 1.5ms

DUTY CYCLE – WIDE PULSE



15:45:16 20.11.2020

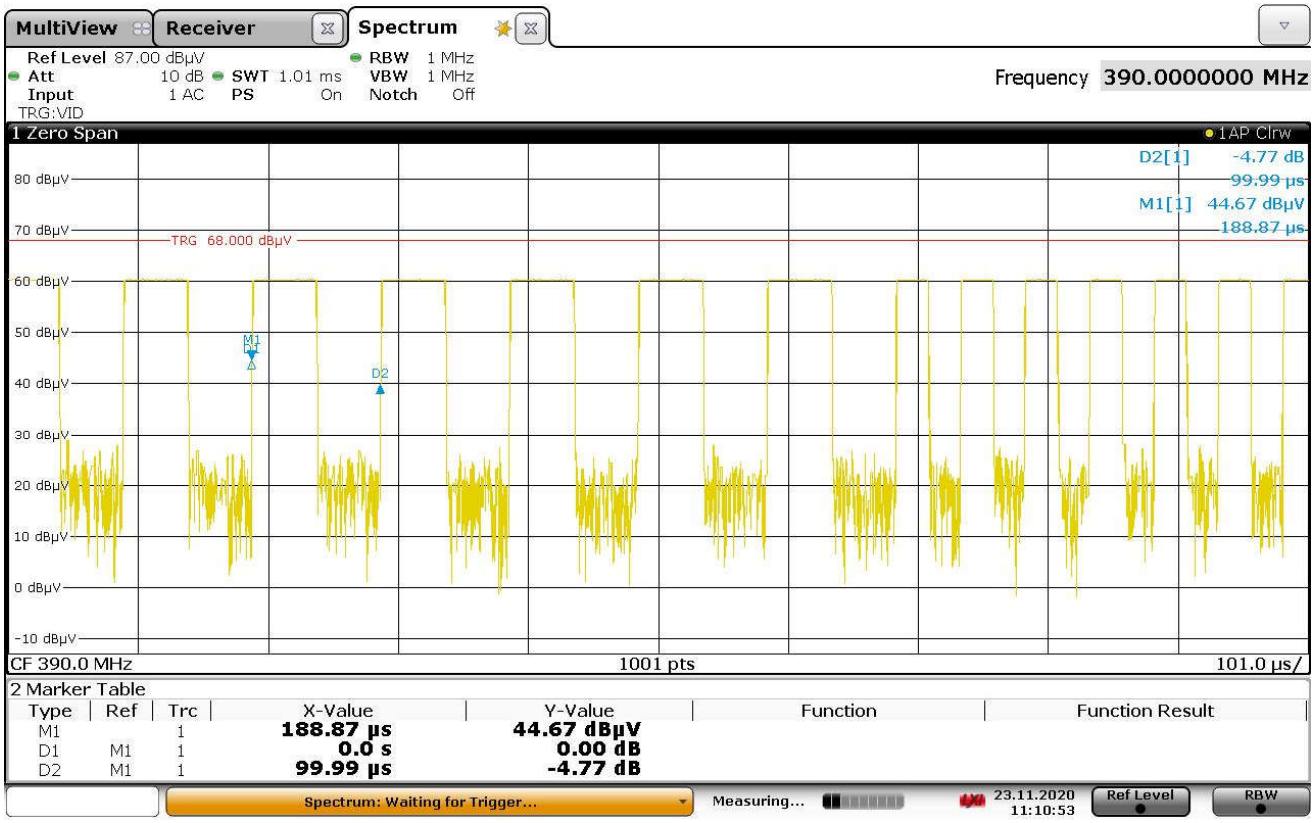
DATA PAGE	
MANUFACTURER	The Chamberlain Group, Inc.
EUT	Automotive Transceiver for Garage Door Control
MODEL NO.	CMRAA0101E3 (ARQ2-UGDO)
TEST	FCC §15.231, RSS-210 Duty Cycle
MODE	Tx
FREQUENCY TESTED	310MHz (10 DIP Code)
DATE TESTED	November 17, 2020
TEST PERFORMED BY	Tylar Jozefczyk
NOTES	Duty Cycle Calculation: 37 × 1.5ms = 55.5ms D.C = 20log(55.5/100) = **-5.11dB**

DUTY CYCLE

15:44:39 20.11.2020

DATA PAGE	
MANUFACTURER	The Chamberlain Group, Inc.
EUT	Automotive Transceiver for Garage Door Control
MODEL NO.	CMRAA0101E3 (ARQ2-UGDO)
TEST	FCC §15.231, RSS-210 Duty Cycle
MODE	Tx
FREQUENCY TESTED	390MHz (12 DIP Code)
DATE TESTED	November 17, 2020
TEST PERFORMED BY	Tylar Jozefczyk
NOTES	Wide Pulse = 99.99µs = 0.099ms

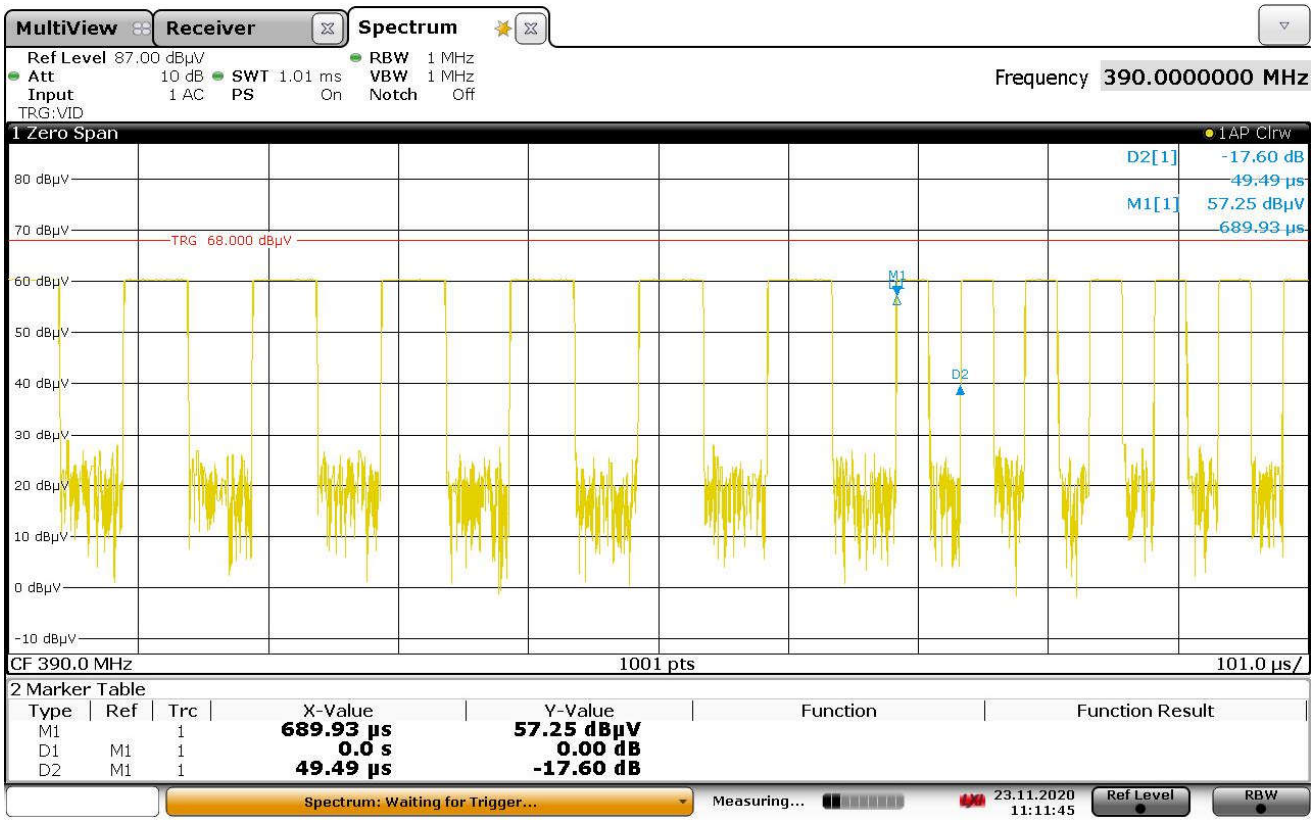
DUTY CYCLE – WIDE PULSE



11:10:54 23.11.2020

DATA PAGE	
MANUFACTURER	The Chamberlain Group, Inc.
EUT	Automotive Transceiver for Garage Door Control
MODEL NO.	CMRAA0101E3 (ARQ2-UGDO)
TEST	FCC §15.231, RSS-210 Duty Cycle
MODE	Tx
FREQUENCY TESTED	390MHz (12 DIP Code)
DATE TESTED	November 17, 2020
TEST PERFORMED BY	Tylar Jozefczyk
NOTES	Narrow Pulse = 49.99µs = 0.049ms

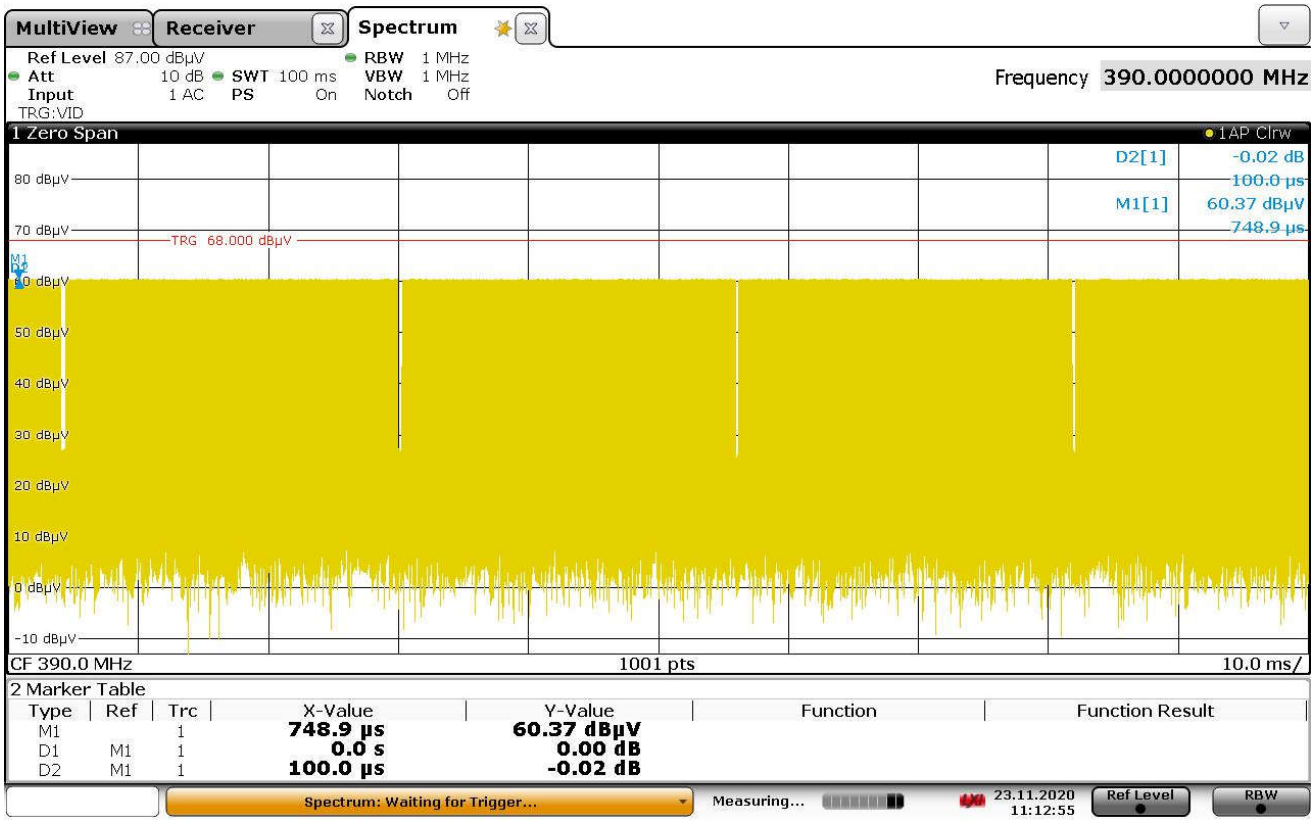
DUTY CYCLE – NARROW PULSE



11:11:46 23.11.2020

DATA PAGE	
MANUFACTURER	The Chamberlain Group, Inc.
EUT	Automotive Transceiver for Garage Door Control
MODEL NO.	CMRAA0101E3 (ARQ2-UGDO)
TEST	FCC §15.231, RSS-210 Duty Cycle
MODE	Tx
FREQUENCY TESTED	390MHz (12 DIP Code)
DATE TESTED	November 17, 2020
TEST PERFORMED BY	Tylar Jozefczyk
NOTES	Duty Cycle Provided: -6.00dB (50% Duty Cycle)

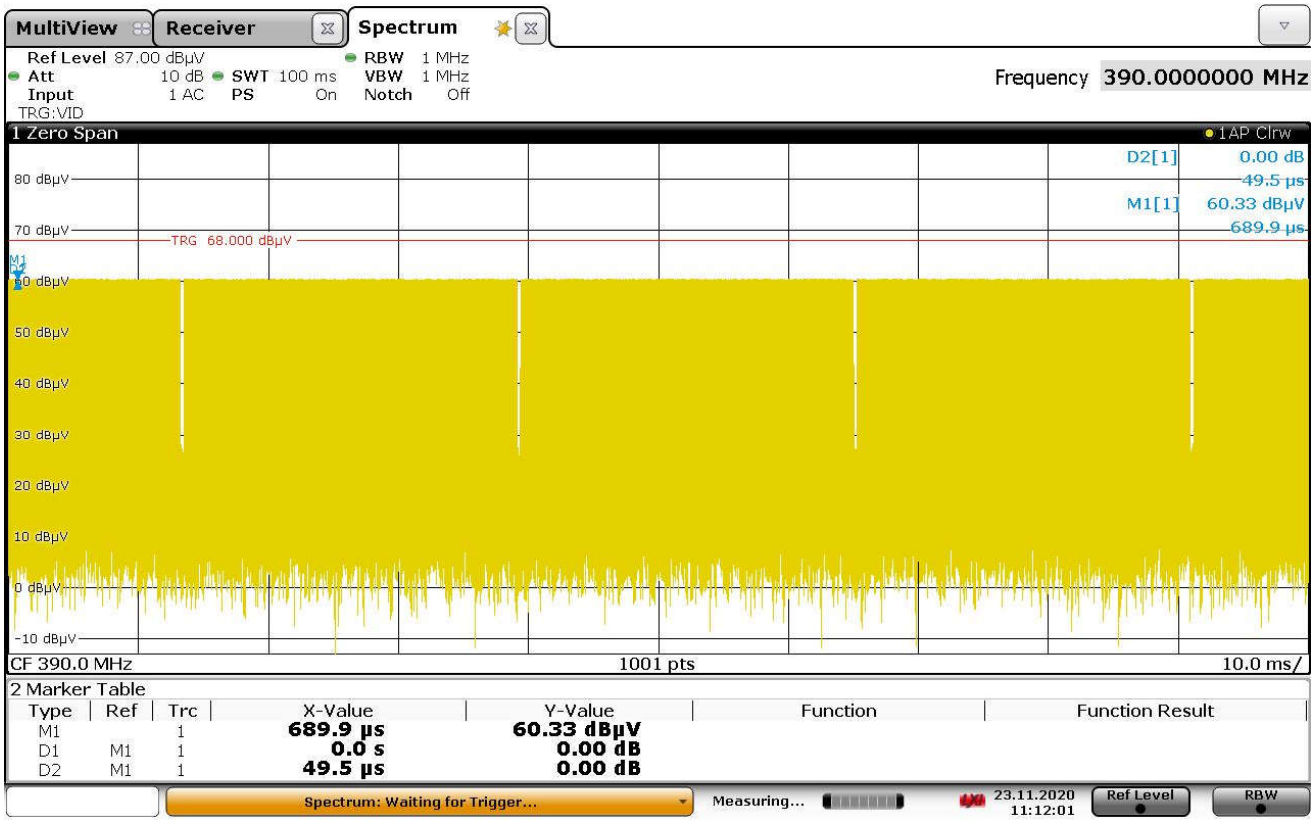
DUTY CYCLE



11:12:56 23.11.2020

DATA PAGE	
MANUFACTURER	The Chamberlain Group, Inc.
EUT	Automotive Transceiver for Garage Door Control
MODEL NO.	CMRAA0101E3 (ARQ2-UGDO)
TEST	FCC §15.231, RSS-210 Duty Cycle
MODE	Tx
FREQUENCY TESTED	390MHz (12 DIP Code)
DATE TESTED	November 17, 2020
TEST PERFORMED BY	Tylar Jozefczyk
NOTES	Duty Cycle Provided: -6.00dB (50% Duty Cycle)

DUTY CYCLE



11:12:01 23.11.2020

DATA PAGE	
MANUFACTURER	The Chamberlain Group, Inc.
EUT	Automotive Transceiver for Garage Door Control
MODEL NO.	CMRAA0101E3 (ARQ2-UGDO)
TEST	FCC §15.231, RSS-210 Duty Cycle
MODE	Tx
FREQUENCY TESTED	390MHz (7 DIP Code)
DATE TESTED	November 17, 2020
TEST PERFORMED BY	Tylar Jozefczyk
NOTES	Wide Pulse = 3.0ms

DUTY CYCLE – WIDE PULSE

22:24:34 17.11.2020

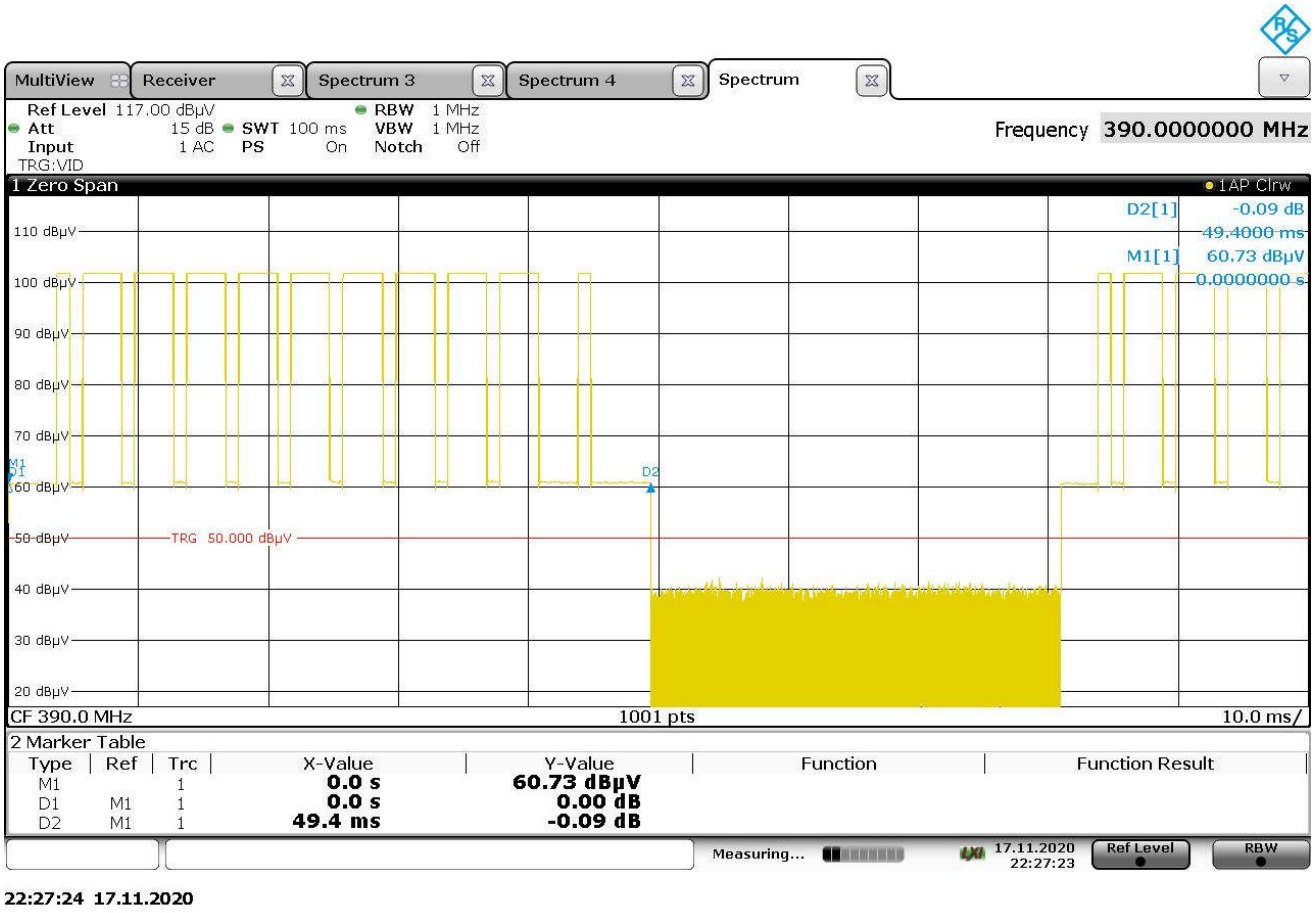
DATA PAGE	
MANUFACTURER	The Chamberlain Group, Inc.
EUT	Automotive Transceiver for Garage Door Control
MODEL NO.	CMRAA0101E3 (ARQ2-UGDO)
TEST	FCC §15.231, RSS-210 Duty Cycle
MODE	Tx
FREQUENCY TESTED	390MHz (7 DIP Code)
DATE TESTED	November 17, 2020
TEST PERFORMED BY	Tylar Jozefczyk
NOTES	Narrow Pulse = 1.0ms

DUTY CYCLE – NARROW PULSE

22:25:56 17.11.2020

DATA PAGE	
MANUFACTURER	The Chamberlain Group, Inc.
EUT	Automotive Transceiver for Garage Door Control
MODEL NO.	CMRAA0101E3 (ARQ2-UGDO)
TEST	FCC §15.231, RSS-210 Duty Cycle
MODE	Tx
FREQUENCY TESTED	390MHz (7 DIP Code)
DATE TESTED	November 17, 2020
TEST PERFORMED BY	Tylar Jozefczyk
NOTES	Duty Cycle Calculation: 12.5 × 3.0ms = 37.5ms 3 × 1.0ms = 3.0ms 37.5 + 3.0 = 40.5ms D.C = 20log(40.5/100) = **-10.75dB**

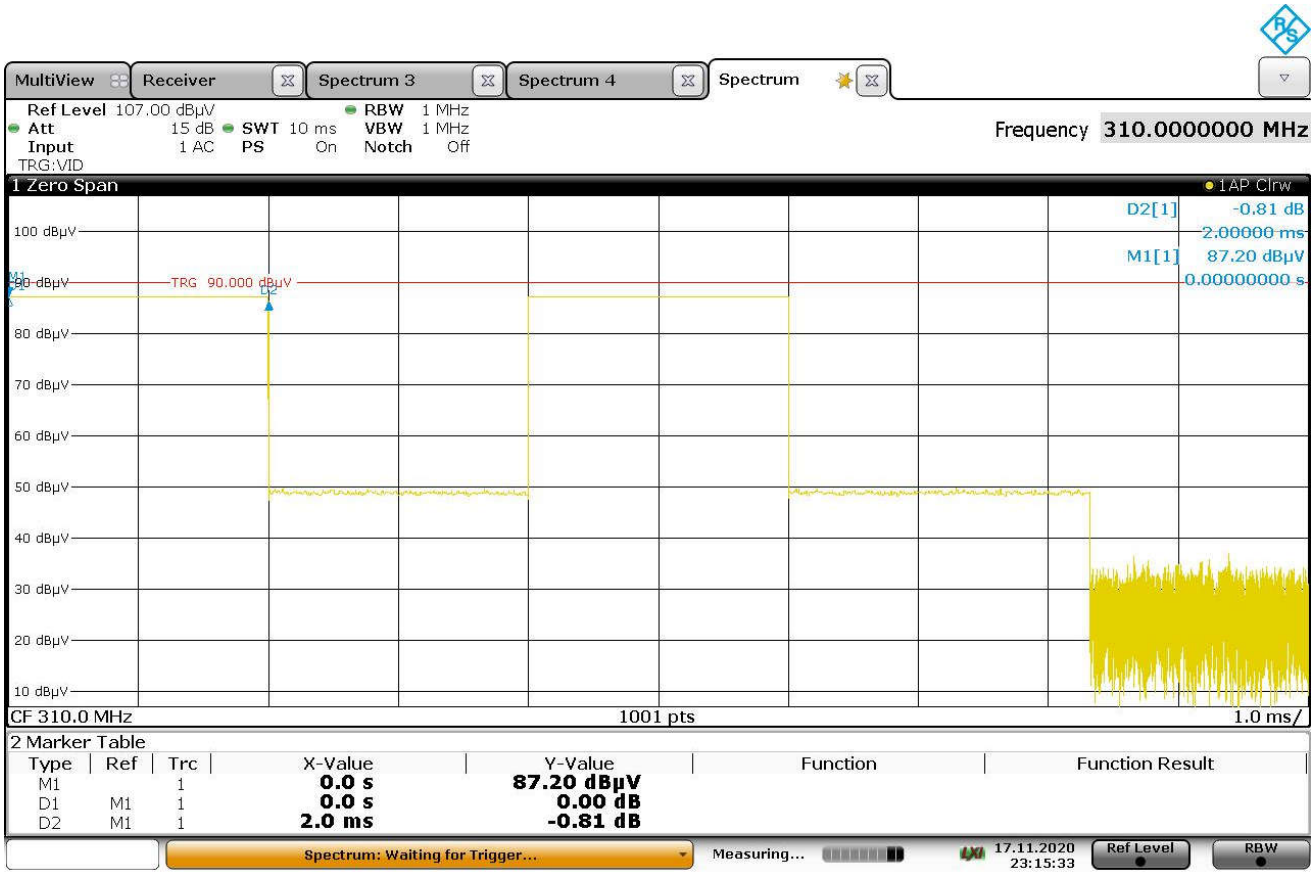
DUTY CYCLE



22:27:24 17.11.2020

DATA PAGE	
MANUFACTURER	The Chamberlain Group, Inc.
EUT	Automotive Transceiver for Garage Door Control
MODEL NO.	CMRAA0101E3 (ARQ2-UGDO)
TEST	FCC §15.231, RSS-210 Duty Cycle
MODE	Tx
FREQUENCY TESTED	390MHz (8 DIP Code)
DATE TESTED	November 17, 2020
TEST PERFORMED BY	Tylar Jozefczyk
NOTES	Wide Pulse = 2.0ms

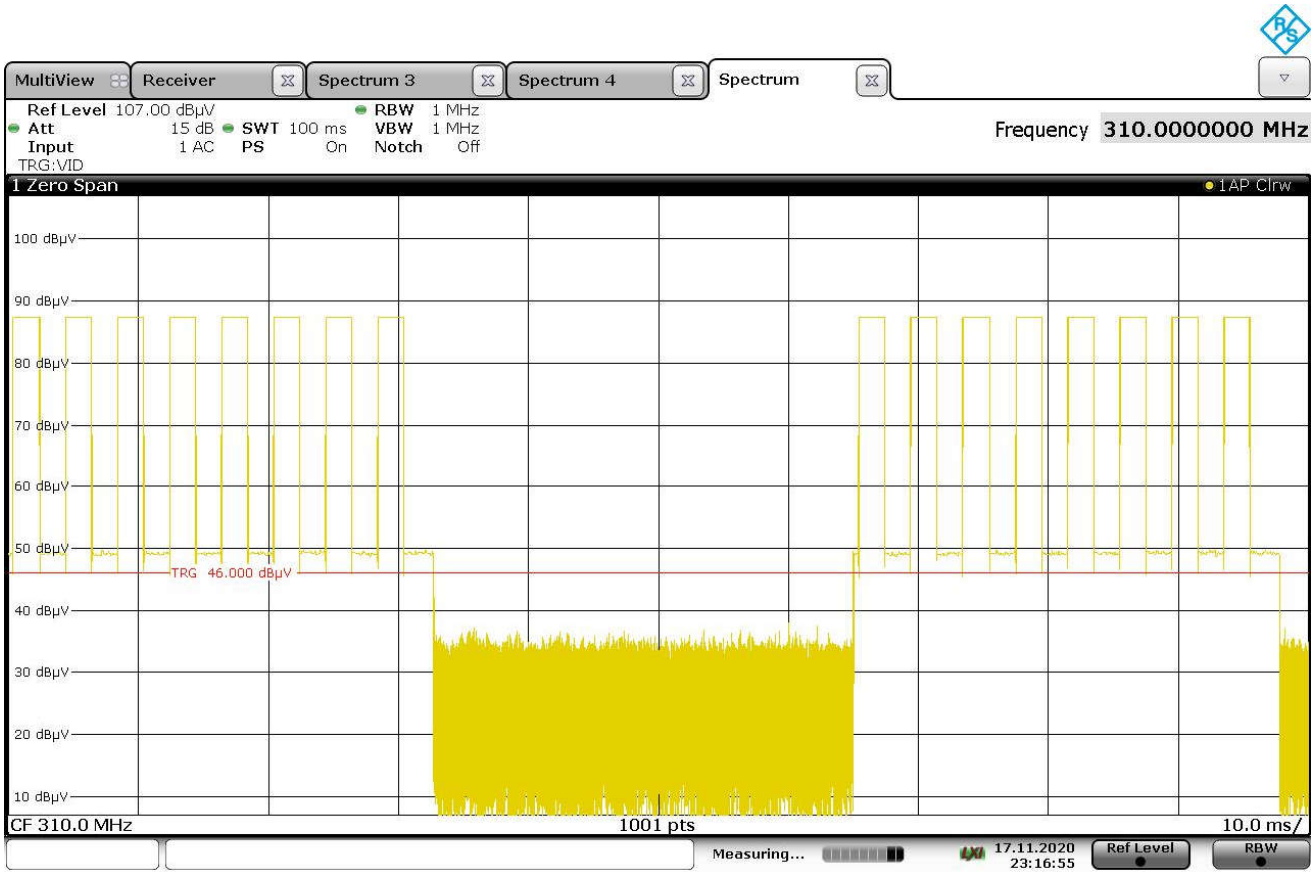
DUTY CYCLE – WIDE PULSE



23:15:34 17.11.2020

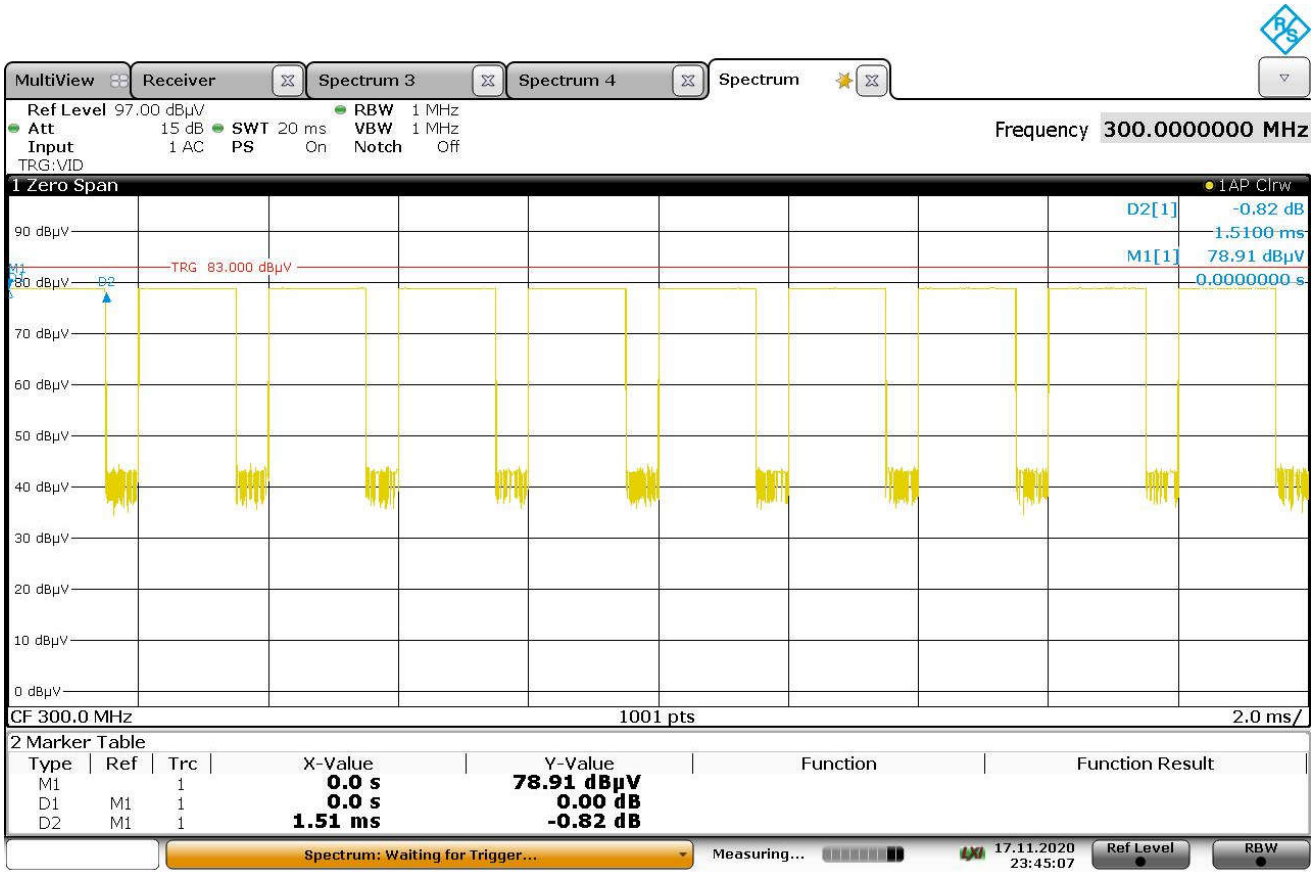
DATA PAGE	
MANUFACTURER	The Chamberlain Group, Inc.
EUT	Automotive Transceiver for Garage Door Control
MODEL NO.	CMRAA0101E3 (ARQ2-UGDO)
TEST	FCC §15.231, RSS-210 Duty Cycle
MODE	Tx
FREQUENCY TESTED	390MHz (8 DIP Code)
DATE TESTED	November 17, 2020
TEST PERFORMED BY	Tylar Jozefczyk
NOTES	Duty Cycle Calculation: 16 × 2.0ms = 32.0ms D.C = 20log(32/100) = **-9.897dB**

DUTY CYCLE



DATA PAGE	
MANUFACTURER	The Chamberlain Group, Inc.
EUT	Automotive Transceiver for Garage Door Control
MODEL NO.	CMRAA0101E3 (ARQ2-UGDO)
TEST	FCC §15.231, RSS-210 Duty Cycle
MODE	Tx
FREQUENCY TESTED	300MHz (10 DIP Code)
DATE TESTED	November 17, 2020
TEST PERFORMED BY	Tylar Jozefczyk
NOTES	Wide Pulse = 1.51ms

DUTY CYCLE – WIDE PULSE



23:45:07 17.11.2020

DATA PAGE	
MANUFACTURER	The Chamberlain Group, Inc.
EUT	Automotive Transceiver for Garage Door Control
MODEL NO.	CMRAA0101E3 (ARQ2-UGDO)
TEST	FCC §15.231, RSS-210 Duty Cycle
MODE	Tx
FREQUENCY TESTED	300MHz (10 DIP Code)
DATE TESTED	November 17, 2020
TEST PERFORMED BY	Tylar Jozefczyk
NOTES	Duty Cycle Calculation: 30 × 1.51ms = 45.3ms D.C = 20log(45.3/100) = **-6.878dB**

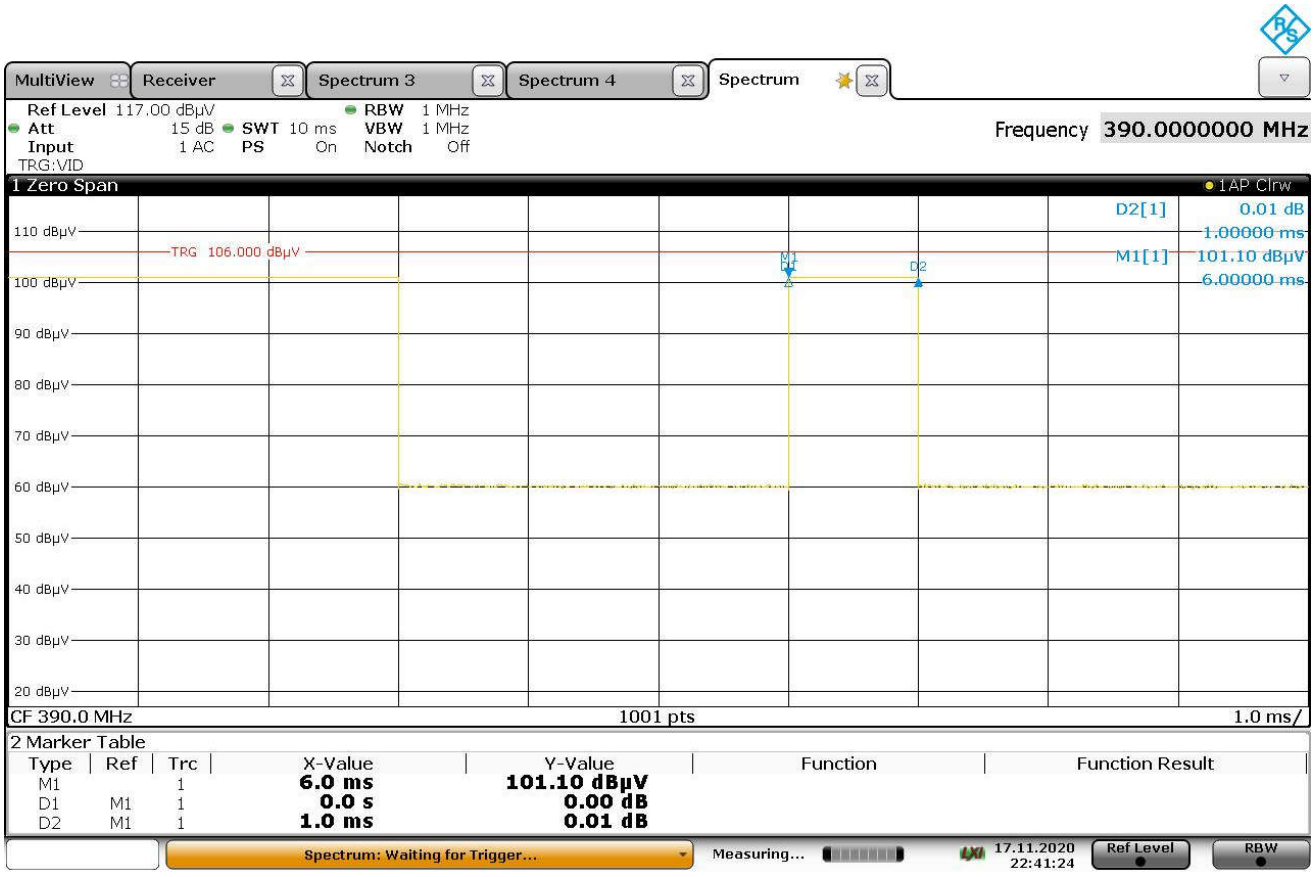
DUTY CYCLE

23:46:22 17.11.2020

DATA PAGE	
MANUFACTURER	The Chamberlain Group, Inc.
EUT	Automotive Transceiver for Garage Door Control
MODEL NO.	CMRAA0101E3 (ARQ2-UGDO)
TEST	FCC §15.231, RSS-210 Duty Cycle
MODE	Tx
FREQUENCY TESTED	390MHz (9 DIP Code - Chamberlain)
DATE TESTED	November 17, 2020
TEST PERFORMED BY	Tylar Jozefczyk
NOTES	Wide Pulse = 3.0ms

DUTY CYCLE – WIDE PULSE

22:40:35 17.11.2020

DATA PAGE	
MANUFACTURER	The Chamberlain Group, Inc.
EUT	Automotive Transceiver for Garage Door Control
MODEL NO.	CMRAA0101E3 (ARQ2-UGDO)
TEST	FCC §15.231, RSS-210 Duty Cycle
MODE	Tx
FREQUENCY TESTED	390MHz (9 DIP Code - Chamberlain)
DATE TESTED	November 17, 2020
TEST PERFORMED BY	Tylar Jozefczyk
NOTES	Narrow Pulse = 1.0ms

DUTY CYCLE – NARROW PULSE