ETS Dr.Genz Taiwan PS Co., Ltd.

FCC Registration No.: 930600

Accredited Testing Laboratory

A2LA Cert.No.: 2300.01

PTCRB Accredited Type Certification Test House

TEST - REPORT

FCC RULES PART 15 / SUBPART C

FCC ID: QMWTX-3311RS

Test report no.:

W6M20605-6945-C-1

FCC

ETS DR. GENZ TAIWAN PS CO., LTD
6F, NO. 58, LANE 188, RUEY-KUANG RD., NEIHU, TAIPEI 114, TAIWAN, R.O.C.
PHONE 886-2-66068877 FAX 886-2-66068879

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1 General Information

1.1 Notes

The purpose of conformity testing is to increase the probability of adherence to the essential requirements or conformity specifications, as appropriate.
The complexity of the technical specifications, however, means that full and thorough testing is impractical for both technical and economic reasons.
Furthermore, there is no guarantee that a test sample which has Passed all the relevant tests conforms to a specification.
Neither is there any guarantee that such a test sample will interwork with other genuinely open systems.
The existence of the tests nevertheless provides the confidence that the test sample possesses the qualities as maintained and that is performance generally conforms to representative cases of communications equipment.

The test results of this test report relate exclusively to the item tested as specified in 1.5.
The test report may only be reproduced or published in full.
Reproduction or publication of extracts from the report requires the prior written approval of the ETS DR. GENZ TAIWAN PS CO., LTD

Tester:

May 30, 2006		Orville Chang	Orville Chang
Date	ETS-Lab.	Name	Signature

Technical responsibility for area of testing:

May 30, 2006		Steven Chuang	Steven Chuang
Date	ETS	Name	Signature

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1.2 Testing laboratory

1.2.1 Location

OATS
No.5-1, Shuang Sing Village,
LiShuei Rd., Wanli Township,
Taipei County 207, Taiwan (R.O.C.)

Company
ETS DR. GENZ TAIWAN PS CO., LTD.
6F, NO. 58, LANE 188, RUEY-KUANG RD.
NEIHU, TAIPEI 114, TAIWAN R.O.C.
Tel : 886-2-66068877
Fax : 886-2-66068879

1.2.2 Details of accreditation status

Accredited testing laboratory

A2LA-registration number: 2300.01

FCC filed test laboratory Reg. No. 930600

Industry Canada filed test laboratory Reg. No. IC 5679

PTCRB Accredited Type Certification Test House

Town: ./.
Country: ./.
Telephone: ./.
Fax: ./.

1.3 Details of approval holder

Name : Sim Tech System, LLC.
Street : 42 Martin`s Way Sugar Land
Town : TEXAS 77479
Country : United States
Telephone : (281)265-0002
Fax : ./.

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1.4 Application details

Date of receipt of application : May 17, 2006
Date of receipt of test item : May 17, 2006
Date of test : May 17, 2006 to May 26, 2006

1.5 Test item

Description of test item : Remote Start Disabler (Transmitter)

Type identification : TX-3311RS

Brand name : ./.

Serial number : Test sample without serial number

Transmitting frequency : 433.92 MHz

Operation mode : simplex

Voltage supply : 3 VDC (Battery)

(If the device is using battery, please check if the device is tested under fresh battery condition.)

Highest clock frequency : 433.92 MHz

Antenna type : loop Antenna

Photos : see Annex

Manufacturer
(if different from applicant)

Name : ./.
Street : ./.
Town : ./.
Country : ./.

Additional information : ./.

1.6 Test standards

Technical standard : FCC RULES PART 15 SUBPART B / SUBPART C § 15.231 : September 2005

2 Technical test

2.1 Summary of test results

No deviations from the technical specification(s) were ascertained in the course of the tests performed. ☒

or

The deviations as specified in 2.5 were ascertained in the course of the tests performed. ☐

2.2 Test environment

Temperature	: 23 °C
Relative humidity content	: 20 ... 75 %
Air pressure	: 86 ... 103 kPa
Details of power supply	: 3 VDC (Battery)

2.3 Test equipment utilized

No.	Test equipment	Type	Serial No.	Manufacturer	Cal. Date	Next Cal. Date
ETSTW-CE 001	EMI TEST RECEIVER	ESHS10	842121/013	R&S	2005/10/27	2006/10/26
ETSTW-CE 002	PREREULATOR MODE DC POWER SUPPLY	None	None			
ETSTW-CE 003	AC POWER SOURCE	APS-9102	D161137	GW		
ETSTW-CE 004	ZWEILEITER-V-NETZNACHBILDUNG TWO-LINE V-NETWORK	ESH3-Z5	840731/011	R&S	2005/10/25	2006/10/24
ETSTW-CE 005	Line-Impedance Stabilisation Network	NNBM 8126D	137	Schwarzbeck	2005/10/21	2006/10/20
ETSTW-CE 006	IMPULS-BEGRENZER PULSE LIMITER	ESH3-Z2	100226	R&S	2004/11/11	2006/11/10
ETSTW-CE 008	ABSORBING CLAMP	MDS 21	3469	ABSORPTIONS-MESSWANDLER-ZANGE	2005/10/24	2007/10/23
ETSTW-CE 009	TEMP.&HUMIDITY CHAMBER	GTH-225-40-1P-U	MAA0305-009	GIANT FORCE	2005/8/18	2006/8/17
ETSTW-CE 012	Dual-Phase-V-Network	NNB-2/16Z	03/10201	Telemeter		
ETSTW-CS 001	SIGNAL GENERATOR	SMX	849254/003	R&S	2005/10/14	2006/10/13
ETSTW-CS 002	COUPLING AND DECOUPLING NETWORK	CDN S751	19263	SCHAFFNER	2005/10/14	2006/10/13
ETSTW-CS 003	COUPLING AND DECOUPLING NETWORK	CDN T400	19820	SCHAFFNER	2005/10/14	2006/10/13
ETSTW-CS 004	COUPLING AND DECOUPLING NETWORK	CDN M016	20053	SCHAFFNER	2005/10/27	2006/10/26
ETSTW-CS 005	RF Power Amplifier	100A250A	306547	AR	2005/10/14	2006/10/13
ETSTW-CS 004	6 dB Attenautor	HFP-5100-3/06 N M/F	2010876106			
ETSTW-RE 002	Function Generator	33220A	MY43004982	Agilent	2005/10/14	2007/10/13
ETSTW-RE 003	EMI TEST RECEIVER	ESI 26	831438/001	R&S	2005/10/24	2006/10/23
ETSTW-RE 004	EMI TEST RECEIVER	ESI 40	832427/004	R&S	2005/10/29	2006/10/30
ETSTW-RE 005	EMI TEST RECEIVER	ESVS10	843207/020	R&S	2005/10/16	2006/10/15
ETSTW-RE 018	ANTENNA	AT4560	27212	AR	2004/11/8	2007/11/7

ETSTW-RE 019	ANTENNA , HORN	22240-25	121074	FM		
ETSTW-RE 020	MICROWAVE HORN ANTENNA	AT4002A	306915	AR		
ETSTW-RE 021	SWEEP GENERATOR	SWM05	835130/010	R&S	2005/10/14	2006/10/13
ETSTW-RE 022	AMPLIFIER	8447D	2944A09837	Agilent	2005/10/14	2006/10/13
ETSTW-RE 027	Passive Loop Antenna	6512	34563	EMCO	2004/6/30	2007/6/29
ETSTW-RE 028	Log-Periodic DipoleArray Antenna	3148	34429	EMCO	2004/6/15	2006/6/14
ETSTW-RE 029	Biconical Antenna	3109	33524	EMCO	2004/6/17	2006/6/16
ETSTW-RE 030	Double-Ridged Waveguide Horm Antenna	3117	35224	EMCO	2006/5/4	2008/5/3
ETSTW-RE 032	Millivoltmeter	URV 55	849086/013	R&S	2005/10/17	2006/10/16
ETSTW-RE 033	4CH 1GHz 5GS/s DSO	WAVERUNNER 6100A	LCRY0604P14508	LeCory	2005/8/11	2006/8/10
ETSTW-RE 034	Power Sensor	URV5-Z4	839313/006	R&S	2005/10/17	2006/10/16
ETSTW-RE 037	Log-Periodic DipoleArray Antenna	3148	00034546	EMCO	2004/11/18	2006/11/17
ETSTW-RE 038	Log-Periodic DipoleArray Antenna	3148	00034547	EMCO	2004/11/18	2006/11/17
ETSTW-RE 039	Biconical Antenna	3110B	41760	EMCO	2004/11/18	2006/11/17
ETSTW-RE 040	Biconical Antenna	3110B	41761	EMCO	2004/11/18	2006/11/17
ETSTW-RE 042	ANTENNA	HK116	100172	R&S	2005/1/14	2007/1/13
ETSTW-RE 043	ANTENNA	HL223	100166	R&S		
ETSTW-RE 044	ANTENNA	HL050	100094	R&S		
ETSTW-RE 048	Triple Loop Antenna	HXYZ 9170	HXYZ 9170-134	Schwarzbeck	2005/3/22	2008/3/21
ETSTW-RE 049	TRILOG Super Broadband test Antenna	VULB 9160	9160-3185	Schwarzbeck	2005/5/19	2007/5/18
ETSTW-RE 004	Attenuator 6dB	50HF-006	None	JFW		
ETSTW-RE 055	SPECTRUM ANALYZER	FSU-26	200074	R&S	2005/9/6	2006/9/5
ETSTW-EMI 001	HARMONICS 1000	HAR1000-1P	93	EMC-PARTNER	2005/9/12	2006/9/11
ETSTW-EMS 001	Clamp BASELSTRASSE 160 CH-4242 LAUFEN	CN-EFT1000	354	EMC-PARTNER	2004/11/2	2006/11/1
ETSTW-EMS 002	Frequency Converter	YF-6020	0308014			

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ETSTW-EMS 003	EMC Immunity Test System	TRA2000IN6	579	EMC-PARTNER	2005/10/27	2006/10/26
ETSTW-EMS 004	ESD generator minizap	ESD2000	016	EMC-PARTNER	2005/10/27	2006/10/26
ETSTW-EMS 008	Safety Test Solutions	ELT-400	E-0039	Narda	2005/5/4	2007/5/3
ETSTW-EMS 009	Magnetic Field Antenna	MF1000-1	104	EMC-PARTNER	2004/12/3	2007/12/2
ETSTW-EMS 010	Coupling De-coupling Network	CDN-UTP8	014	EMC-PARTNER	2005/9/1	2008/8/31
ETSTW-EMS 011	Calibration Ficture	F-2031-CF-23MM	451	FCC	2005/8/11	2007/8/11
ETSTW-EMS 012	EM Injection Clamp	F-2031-23MM	476	FCC	2005/8/11	2007/8/10
ETSTW-RS 003	RF Power Amplifier	30S1G3	306933	AR		
ETSTW-RS 004	RF Power Amplifier	150W1000	307009	AR	2005/10/21	2006/10/20
ETSTW-RS 005	Electric Field Probe Type 8.3	EMR-20	BN 2244/20	Narda	2005/9/7	2007/9/6
ETSTW-RS 006	SIGNAL GENERATOR	SML03	101551	R&S	2005/10/21	2006/10/20
ETSTW-GSM 01	SIM Simulator	IT3	B2004-50106	ORGA	2005/9/15	2006/9/14
ETSTW-GSM 02	Universal Radio Communication Tester	CMU 200	103489	R&S	2005/11/15	2006/11/14
ETSTW-GSM 03	Agilent 8960 Test Set 1	E5515C	GB44052675	Agilent	2004/7/14	2006/7/13
ETSTW-GSM 04	Agilent 8960 Test Set 2	E5515C	GB44052665	Agilent	2004/7/14	2006/7/13
ETSTW-GSM 05	Agilent 8960 Test Set 3	E5515C	GB44052652	Agilent	2004/7/17	2006/7/16
ETSTW-GSM 06	Agilent 8960 Test Set 4	E5515C	GB44052684	Agilent	2004/7/16	2006/7/15
ETSTW-GSM 07	Agilent 8960 Test Set 5	E5515C	GB44052658	Agilent	2004/7/14	2006/7/13
ETSTW-GSM 08	Agilent 8960 Test Set 6	E5515C	GB44052666	Agilent	2004/7/16	2006/7/15
ETSTW-GSM 10	Combiner Wessex / Anite	B4605/100	053	Wessex / Anite	2004/7/14	2006/7/13
ETSTW-GSM 11	GSM 850,900,1800,1900 Test system	TS8950G		R&S	2005/11/1	2006/10/31
ETSTW-GSM 12	Acoustical Calibrator	4231	2463874	Brüel&Kjær	2005/10/31	2006/10/30
ETSTW-GSM 13	Conditioning Amplifier	2690--0S2	2437856	Brüel&Kjær		
ETSTW-GSM 14	Telephone Test Head	4602B	2465324	Brüel&Kjær		
ETSTW-GSM 15	Mouth Simulator	4227	2462516	Brüel&Kjær		
ETSTW-GSM 16	TEMP.&HUMIDITY CHAMBER	GTH-120-40-1P-U	MAA0501002	GIANT FORCE	2005/12/29	2006/12/28
ETSTW-GSM 17	ANTENNT COPLER	CMU-Z10	100988	R&S		
ETSTW-GSM 18	AUDIO ANALYZER	UPL16	100173	R&S	2005/10/29	2006/10/28
ETSTW-GSM 23	SPLITTER	4901.19.A	None	SUHNER		
ETSTW-GSM 24	Vibration Testing System	VS-100V	5494	Vibration	2005/12/20	2006/12/19

2.4 General Test Procedure

POWER LINE CONDUCTED INTERFERENCE: The procedure used was ANSI STANDARD C63.4-2003 5.2 using a 50µH LISN (if necessary). Both lines were observed. The bandwidth of the spectrum analyzer was 10 kHz with an appropriate sweep speed.

RADIATION INTERFERENCE: The test procedure used was ANSI STANDARD C63.4-2003 6.4 using a spectrum analyzer. The bandwidth of the spectrum analyzer was 100 kHz with an appropriate sweep speed. The analyzer was calibrated in dB above a microvolt at the output of the antenna. The resolution bandwidth was the 100 kHz and the video bandwidth was 300 kHz. The ambient. temperature of the UUT was 23°C with a humidity of 40 %.

FORMULA OF CONVERSION FACTORS: The Field Strength at 3m was established by adding the meter reading of the spectrum analyzer (which is set to read in units of dBµV) to the antenna correction factor supplied by the antenna manufacturer. The antenna correction factors are stated in terms of dB.

Example:

Freq (MHz)	METER READING + ACF + CABLE LOSS (to the receiver) = FS
33	20 dBµV + 10.36 dB/m + 6 dB = 36.36 dBµV/m @3m

ANSI STANDARD C63.4-2003 6.2.1 MEASUREMENT PROCEDURES: The UUT was placed on a table 80 cm high and with dimensions of 1m by 1.5m (non metallic table). The UUT was placed in the center of the table. The table used for radiated measurements is capable of continuous rotation. The spectrum was scanned from 30 MHz to 10th harmonic of the fundamental.

Peak readings were taken in three (3) orthogonal planes and the highest readings.
Measurements were made by ETS Dr. Genz Taiwan PS Co., Ltd. at the registered open field test site located at. The Registration Number: **930600**

When an emission was found, the table was rotated to produce the maximum signal strength. At this point, the antenna was raised and lowered from 1m to 4m. The antenna was placed in both the horizontal and vertical planes.

ANTENNA & GROUND:
This unit uses loop antenna. (see photo).

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3 Test results (enclosure)

☒ 1st test ☐ test after modification ☐ production test

TEST CASE	Para. Number	Required	Test passed	Test failed
Transmission Requirements	FCC 15.231(a)	☒	☒	☐
Radiated Emission, transmitter	FCC 15.231(b)	☒	☒	☐
Bandwidth of Emission	FCC 15.231(c)	☒	☒	☐
Frequency Tolerance	FCC 15.231(d)	☐	☐	☐
Period Alternate Field Strength Requirements	FCC 15.231(e)	☐	☐	☐
Antenna Requirement	FCC 15.203	☒	☒	☐
Radiated Emission from Receiver	FCC 15.109	☐	☐	☐
Radiated Emission from Digital Part	FCC 15.109	☐	☐	☐
Conducted Measurement at (AC) Power Line	FCC 15.207	☐	☐	☐

The follows is intended to leave blank.

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3.1 Transmission Requirements

FCC 15.231(a)

3.1.1 Limit of Transmission Time

According to 15.231(a)(1), A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released.

3.1.2 Active Time

This transmitter is operated manually and will automatically deactivate the transmitter in 1.84 seconds of being released.

Remark: See attached appendix A

Test equipment used: ETSTW-RE 003, ETSTW-RE 004, ETSTW-RE 042, ETSTW-RE 055, ETSTW-RE 029, ETSTW-RE 043, ETSTW-RE 028

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3.2 Output Power (Field Strength)

Test condition		Transmitter field strength (dBµV/m)
T_{nom}= 23 °C	V_{nom} = 3 V DC	74.66
Measurement uncertainty		< 3 dB

Limit 15.231(b)

Fundamental Frequency (MHz)	Field strength of fundamental, limit µV/m
40.66 – 40.70	2,250
70 – 130	1,250
130 – 174	1,250 to 3,750
174 – 260	3,750
260 – 470	3,750 to 12,500** (433.92 MHz: 80.82 dBµV/m = 10,996 µV/m)
Above 470	12,500

** linear interpolation

Remarks: see attached diagrams
Test equipment used: ETSTW-RE 003, ETSTW-RE 004, ETSTW-RE 042, ETSTW-RE 055, ETSTW-RE 029, ETSTW-RE 043, ETSTW-RE 028

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3.3 Out of Band Radiated Emissions

FCC Rule: 15.231(b) , 15.35
For out of band emissions that are close to or that exceed the 20 dB attenuation requirement described in the specification, radiated measurements were performed at a 3 m separation distance to determine whether these emissions complied with the general radiated emission requirement.

Limits:
For frequencies below 1GHz :
Max permitted average Limits = Max. reading – 20 dB

80.82 dBµV/m- 20 dB= 60.82 dBµV/m

Guidance on Measurement of pulsed emission: 815.231 (b), §15.35(c)
"If the emission is pulsed, modify the unit for continues operation , use the settings shown above, then correct the reading by subtracting the peak-average correction factor, derived from the appropriate duty cycle calculation." Here the correction was added to the limit instead subtracted from the reading.

Duty Cycle correction = 20 log (dwell time/100ms)

For frequencies above 1GHz (Peak measurements).
Modified Limits for peak conform 15.35 (b) = Max Permitted average Limits + 20dB (because Peak detector is used)

80.82 dBµV/m

For frequencies above 1GHz (Average measurements).
Correction factor conform 15.35 (c) (Average measurements)
Duty cycle correction :
Max. reading – 20 dB – duty cycle correction:

No duty cycle correction was added to the reading

80.82 dBµV/m- 20 dB= 60.82 dBµV/m

Remarks: See attached diagrams.
Test equipment used: ETSTW-RE 003, ETSTW-RE 004, ETSTW-RE 030, ETSTW-RE 017, ETSTW-RE 029, ETSTW-RE 043, ETSTW-RE 028, ETSTW-RE 042

3.4 Transmitter Radiated Emissions in restricted Bands

FCC Rules: 15.231 (b), 15.205, 15.209, 15.35
Radiated emission measurements were performed from 30 MHz to 8000 MHz.
For radiated emission tests, the analyzer setting was as followings:
RES BW VID BW
Frequency <1 GHz 100 kHz 100 kHz (Peak measurements)
Frequency >1 GHz 1 MHz 1 MHz (Peak measurements)
1 MHz 1 MHz (Average measurements)
Limits:

For frequencies below 1GHz :

Frequency of Emission (MHz)	Field strength (microvolts/meter)	Field Strength (dB microvolts/meter)
30 – 88	100	40.0
88 – 216	150	43.5
216 – 960	200	46.0
Above 960	500	54.0

For frequencies above 1GHz (Average measurements).
Guidance on Measurement of pulsed emission:
"If the emission is pulsed, modify the unit for continues operation , use the settings shown above, then correct the reading by subtracting the peak-average correction factor, derived from the appropriate duty cycle calculation.

For frequencies above 1GHz (Average measurements).

The correction factor, based on the channel dwell tine in a 100 ms period, may be mathematically applied to a measurement made with an average detector, to further reduce the value.

Duty cycle correction = 20 log (dwell time/100ms)
No duty cycle correction was added to the reading

Modified Limits for peak conform 15.35 (b) = Max Permitted average Limits + 20dB (because Peak detector is used)

Above 960 MHz
For mode DSSS CW: 54 dBµV/m + 20 dB = 74 dBµV/m

Remarks: See attached diagrams.

Test equipment used: ETSTW-RE 003, ETSTW-RE 004, ETSTW-RE 030, ETSTW-RE 017, ETSTW-RE 029, ETSTW-RE 043, ETSTW-RE 028, ETSTW-RE 042

3.5 Spurious Emission radiated, Transmitter

Spurious emission was measured with modulation (declared by manufacturer).

The limits on the field strength of the spurious emission in the table § 15.231(b) are based on the fundamental frequency of the intentional radiator. Spurious emission shall be attenuated to the average (or alternatively, CISPR quasi-peak) limits shown in this table or to the general limits shown in § 15.209, whichever limit permits a higher field strength.
In addition, radiated emission which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).

SAMPLE CALCULATION OF LIMIT. All results will be updated by an automatic measuring system in accordance to point 2.3.

Calculation of test results:
Such factors like antenna correction, cable loss, external attenuation etc. are already included in the provided measurement results. This is done by using validated test software and calibrated test system according the accreditation requirements.

The peak and average spurious emission plots was measured with the average limits.
In the Table being listed the critical peak and average value an exhibit the compliance with the above calculated Limits.

Summary table with radiated data of the test plots

Antenna Polarization	Frequency Marker (MHz)	Corrected Reading (dBuv)	Correction Factor (dB)	Detector	Test Result (dBuV/m)	Compliance Limit (dBuV/m)	Margin (dB)	Table Azimuth (degree)	Antenna Height (cm)
H	435.671	13.53	18.5	PK	32.03	60.82	28.79	60	174
	868.537	28.9	25.7	PK	54.6	60.82	6.22	180	200
	1300.661	51	-8.02	PK	42.98	54	11.02	234	189
	3038.076	49.61	-0.22	PK	49.39	60.82	11.43	185	213
	3909.819	49.27	2.34	PK	51.61	54	2.39	98	220
	4336.673	47.25	3.5	PK	50.75	54	3.25	341	198

Antenna Polarization	Frequency Marker (MHz)	Corrected Reading (dBuv)	Correction Factor (dB)	Detector	Test Result (dBuV/m)	Compliance Limit (dBuV/m)	Margin (dB)	Table Azimuth (degree)	Antenna Height (cm)
V	868.537	23.12	25.7	PK	48.82	60.82	12	182	203
	1300.601	52.32	-8.02	PK	44.3	54	9.7	230	185
	3909.819	49.72	-0.22	PK	49.5	54	4.5	180	210
	4336.673	48.2	-3.5	PK	51.7	54	2.3	340	200

Note: 1. The formula of measured value as: Test Result = Corrected Reading + Correction Factor
2. The Correction Factor = Antenna factor + Cable Loss – Preamplifier
3. Detector function in the form : P = Peak, QP = Quasi Peak, AV = Average

Freq. – Frequency Range:

1:	30	-	200 MHz
2:	200	-	1000MHz
3:	1	-	4 GHz
4:	4	-	8 GHz

All other not noted test plots do not contain significant test results in relation to the limits
Test results: The unit meet the FCC requirements.
Comment: See attached diagrams.
Test equipment used: ETSTW-RE 003, ETSTW-RE 004, ETSTW-RE 030, ETSTW-RE 017, ETSTW-RE 029, ETSTW-RE 043, ETSTW-RE 028, ETSTW-RE 042

3.6 Channel Bandwidth

Measurement of Necessary Bandwidth (BN)

Used frequency	Bandwidth	Limit
433.92 MHz	87.17 kHz	1.0848 MHz
Measurement uncertainty	< 10 Hz	

Remarks: The bandwidth fulfills the requirements of FCC § 15.231,
see attached diagrams

Limits:

The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the center frequency. Bandwidth is determined at the points 20 dB down from the modulated carrier.

Test equipment used: ETSTW-RE 003 , ETSTW-RE 004

3.7 Antenna requirement

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of Sections 15.211, 15.213, 15.217, 15.219, or 15.221. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with Section 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this Part are not exceeded.

Remark: This loop Antenna is integral antenna which passes antenna requirement.

The equipment meets the requirements	yes ☒	no ☐

3.8 Spurious Emission radiated, Receiver

FCC 15.109

Limits:

Frequency (MHz)	E-field field strength limit dBµV/m
30 – 88	40.00
88 – 216	43.52
216 – 960	46.02
Above 960	53.98 (73.98 dBµV/m 20 dB peak detector)

Above 960 MHz: limit line 74 dBµV/m 20 dB peak detector

Remarks: This test is not required.

Test equipment used: ETSTW-RE 003, ETSTW-RE 004, ETSTW-RE 029, ETSTW-RE 043, ETSTW-RE 028, ETSTW-RE 042

3.9 Conducted Measurement at (AC) Power Line

For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the table bellows with this provision shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminals.

This measurement was transact first with instrumentation using an average and peak detector and a 10 kHz bandwidth. If the peak detector achieves a calculated level, the measurement is repeated by an instrumentation using a quasi-peak detector.

Frequency	Level	
	quasi-peak	average
150 kHz	dBµV/m	dBµV/m

Limits:

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi Peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50

Test is not required the sample is using a battery.

Test equipment used: ETSTW-CE 004, ETSTW-CE 001, ETSTW-RE 003, ETSTW-RE 006

Comment: not required

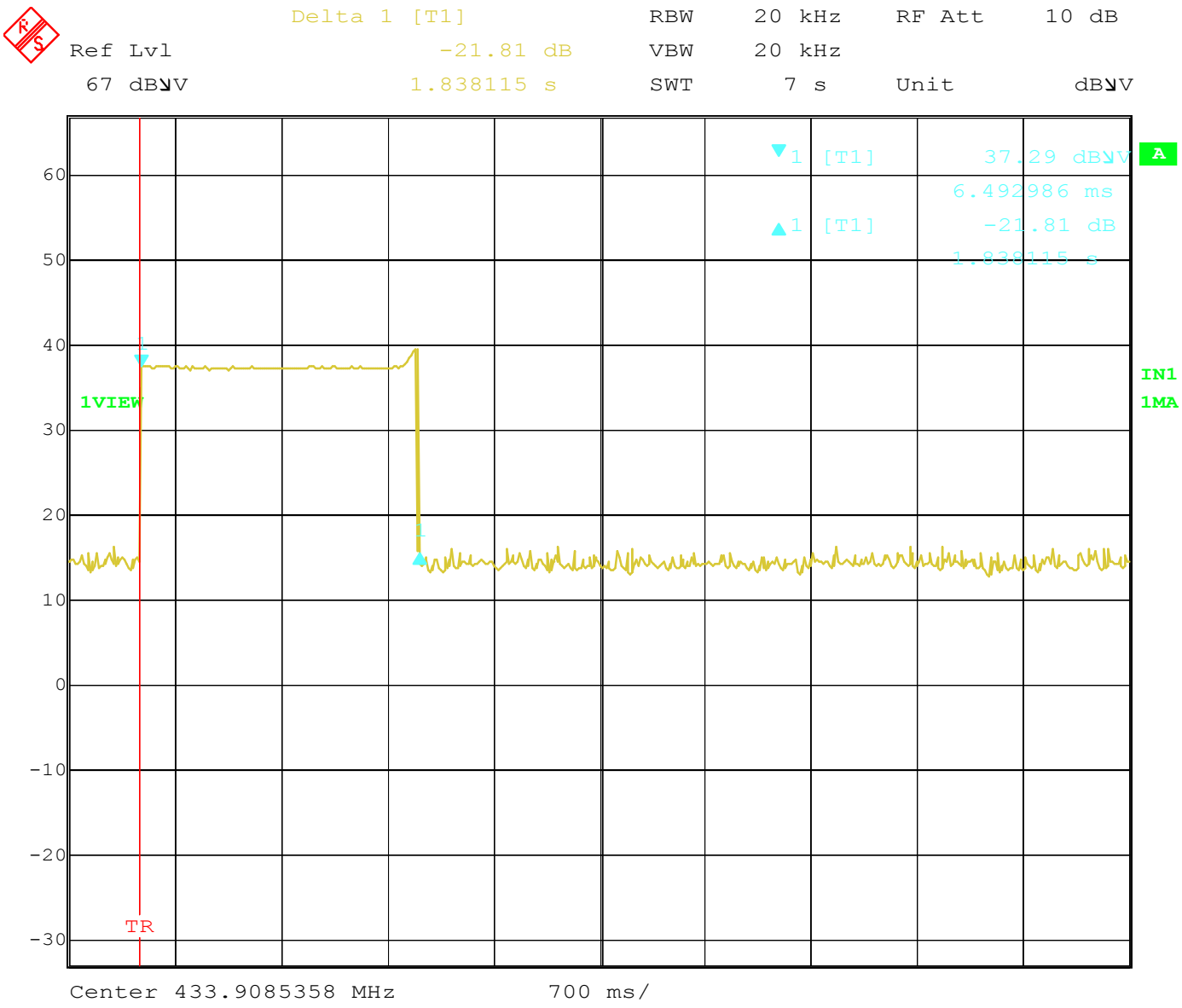
Appendix

A Active Time
B Output Power
C Spurious Emissions radiated - Transmitter
D Bandwidth
E Pictures

Registration number: W6M20605-6945-C-1
FCC ID: QMWTX-3311RS

Appendix A

Active Time



Title: Close time
Date: 26.MAY.2006 11:03:26

Registration number: W6M20605-6945-C-1
FCC ID: QMWTX-3311RS

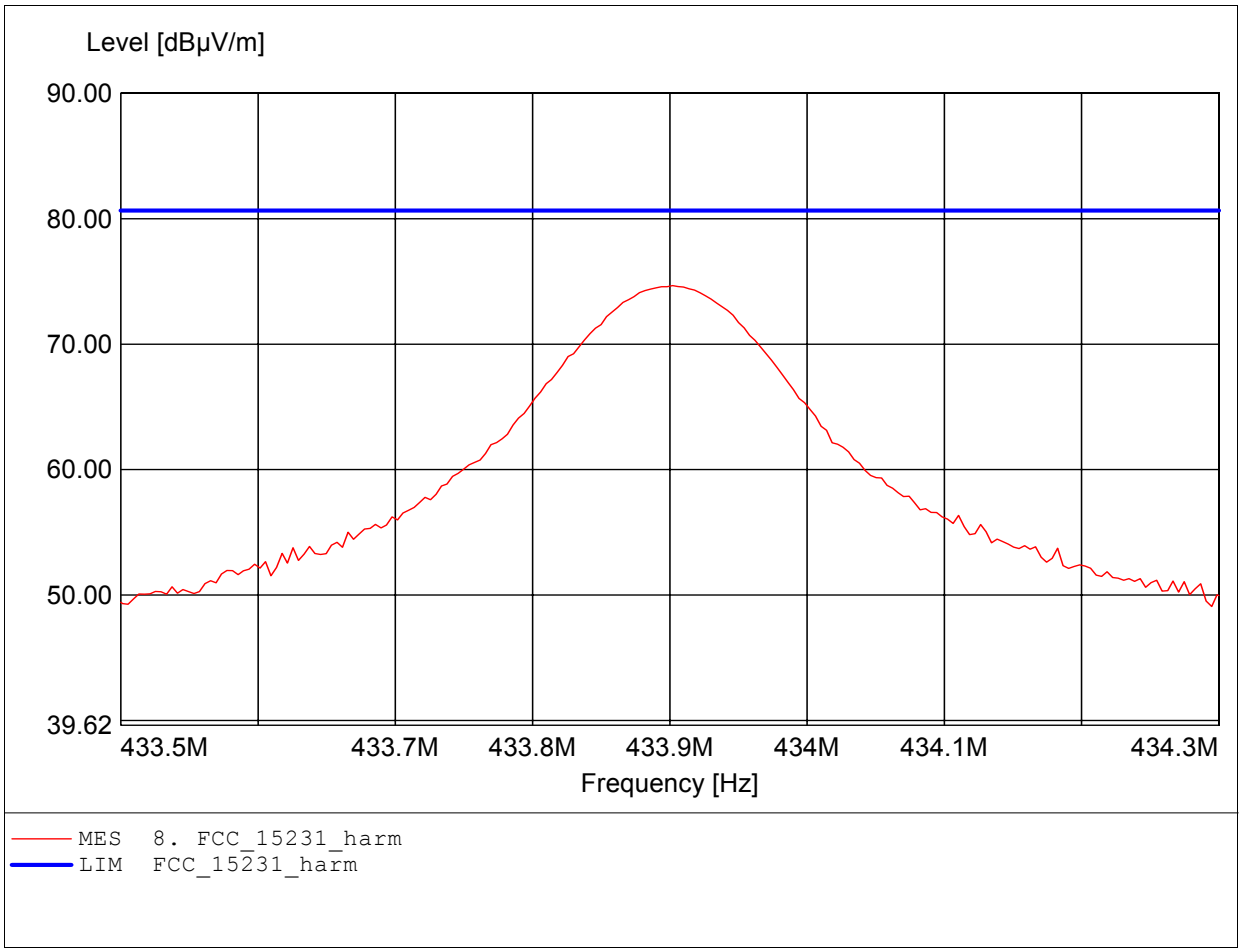
Appendix B

Output Power

Field Strength of Fundamental

FCC RULES PART 15, SUBPART C

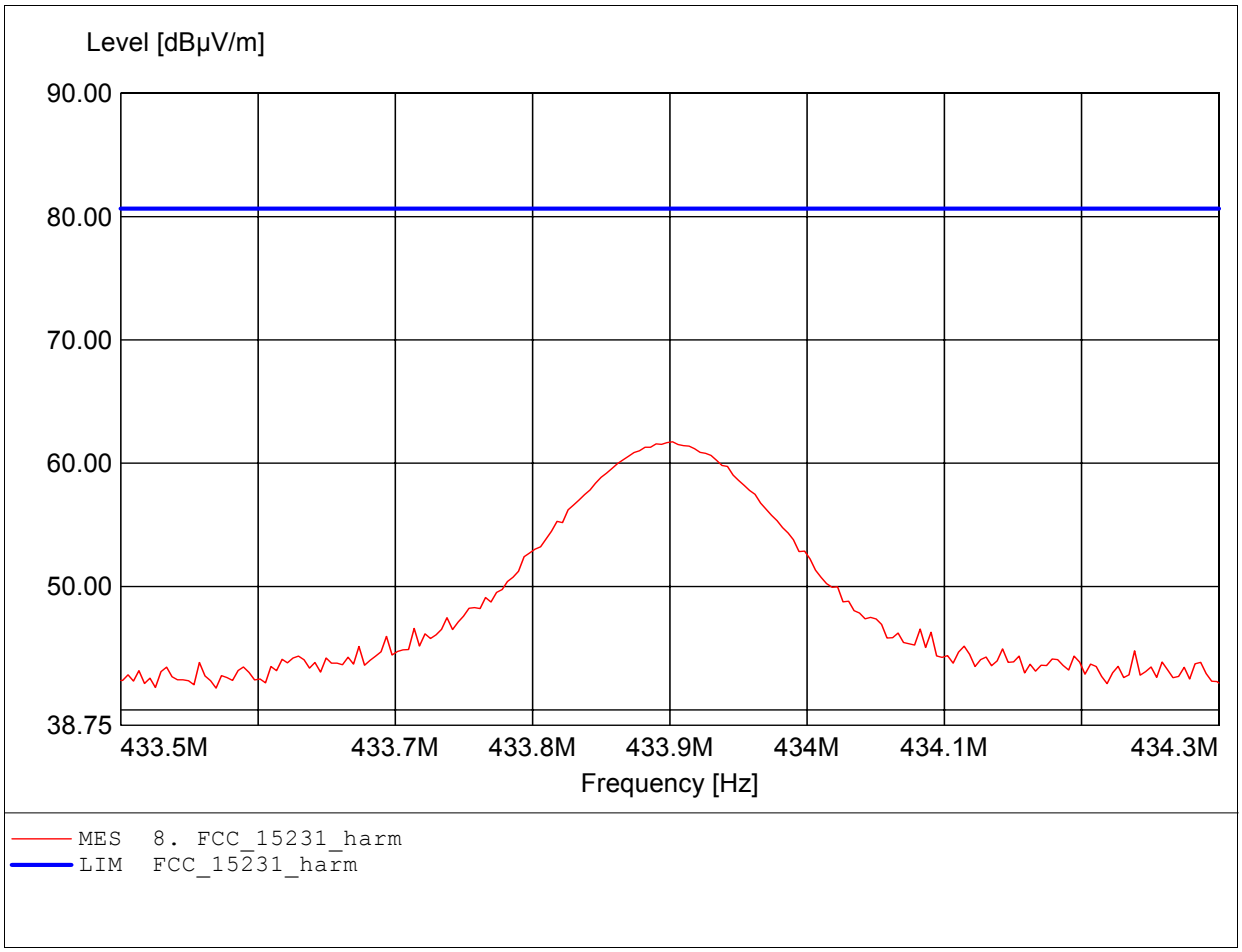
EUT:	Remote Start Disabler (Transmitter)
MODEL NO.:	TX-3311RS
Approval Holder:	Sim Tech System, LLC.
Test Site / Operator:	ETS / Catey
Temperature/Voltage:	Temp.: 24.9°C/ Unom.: 3 VDC (Battery)
Test Specification:	according to Section15.231
Comment 1:	Dist.: 3m, Ant.: HL223
	Freq: 433.902MHz, Emax: 74.66dBµV/m, RBW: 100kHz



Field Strength of Fundamental

FCC RULES PART 15, SUBPART C

EUT:	Remote Start Disabler (Transmitter)
MODEL NO.:	TX-3311RS
Approval Holder:	Sim Tech System, LLC.
Test Site / Operator:	ETS / Catey
Temperature/Voltage:	Temp.: 24.9°C/ Unom.: 3 VDC (Battery)
Test Specification:	according to Section15.231
Comment 1:	Dist.: 3m, Ant.: HL223
	Freq: 433.902MHz, Emax: 61.73dBµV/m, RBW: 100kHz



Registration number: W6M20605-6945-C-1
FCC ID: QMWTX-3311RS

Appendix C

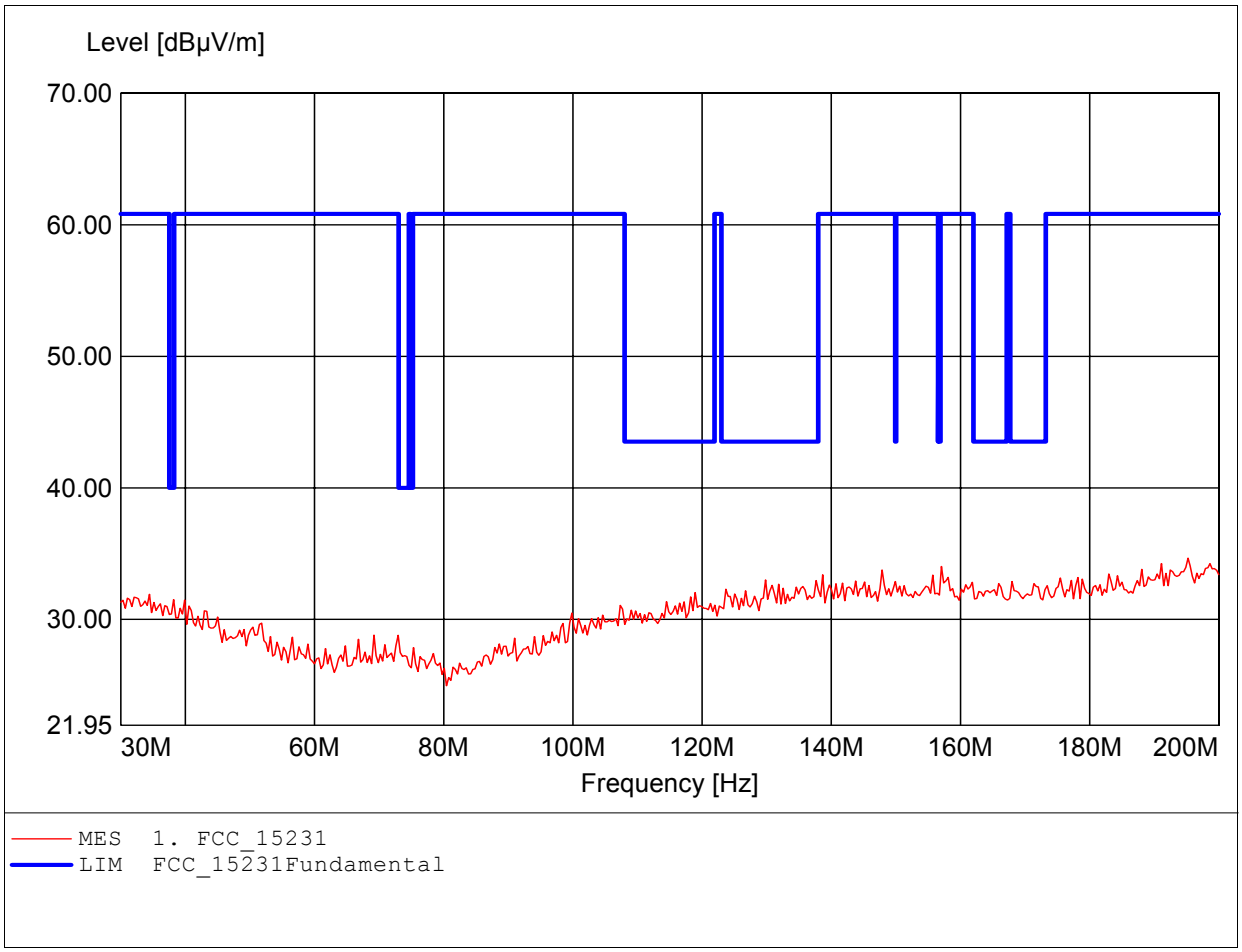
Spurious Emissions radiated

The measurement diagrams plots attached below are preliminary wideband scan with a peak detector for reference only. The test results are listed on section 3.5

Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

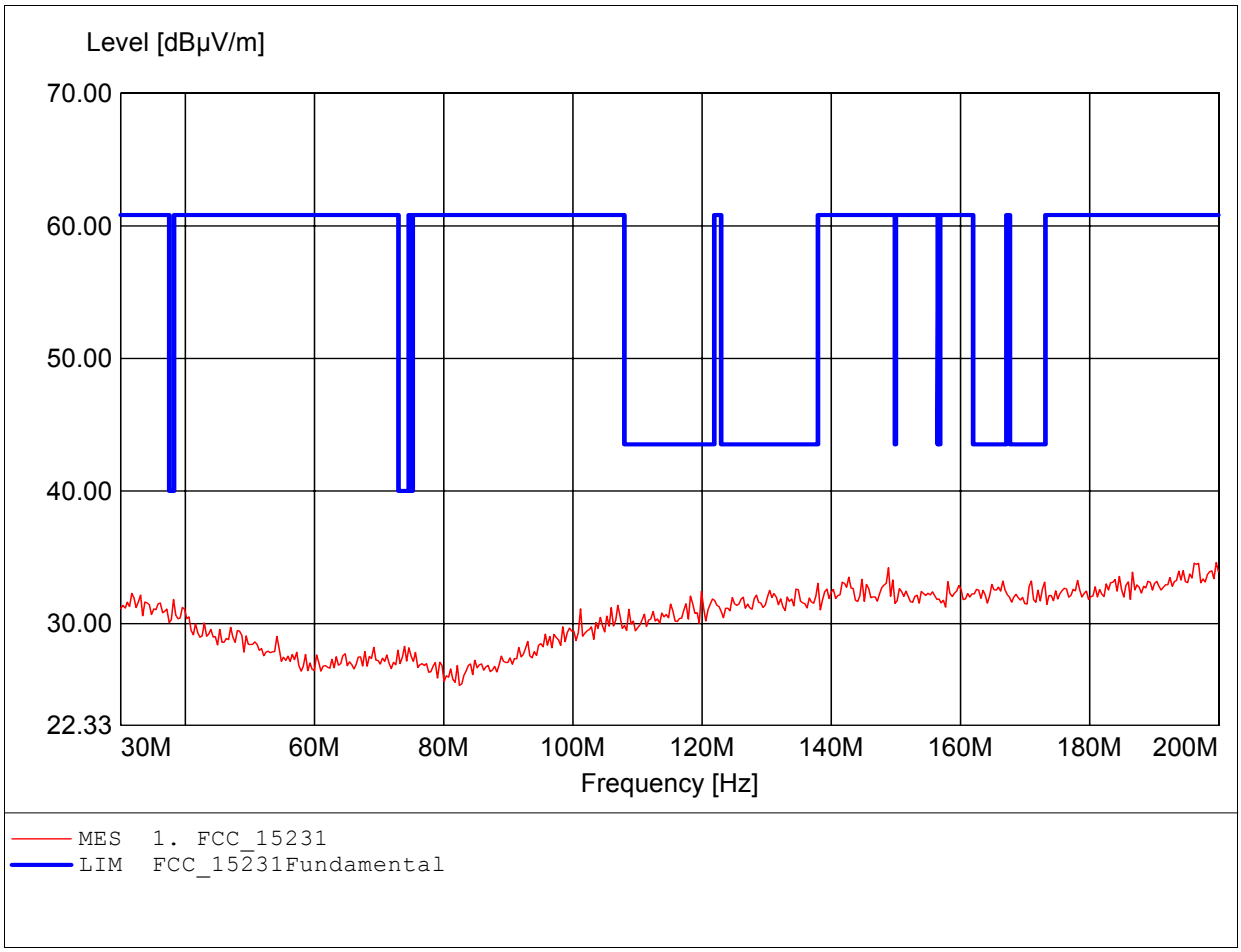
EUT:	Remote Start Disabler (Transmitter)
MODEL NO.:	TX-3311RS
Approval Holder:	Sim Tech System, LLC.
Test Site / Operator:	ETS / Catey
Temperature/Voltage:	Temp.: 24.9°C/ Unom.: 3 VDC (Battery)
Test Specification:	according to Section15.231
Comment 1:	Dist.: 3m, Ant.: HK 116
	Freq: 195.230MHz, Emax: 34.66dBµV/m, RBW: 100kHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

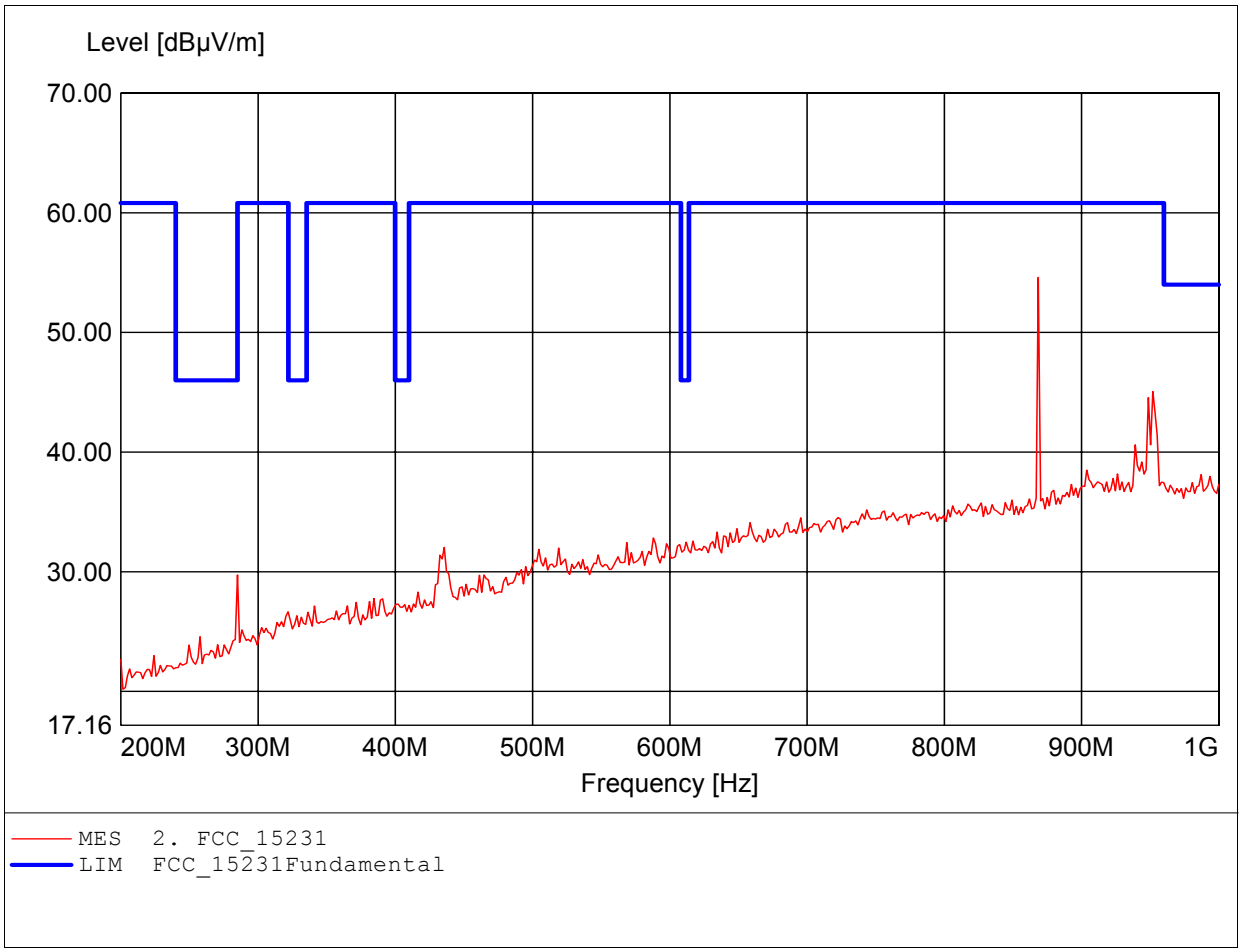
EUT:	Remote Start Disabler (Transmitter)
MODEL NO.:	TX-3311RS
Approval Holder:	Sim Tech System, LLC.
Test Site / Operator:	ETS / Catey
Temperature/Voltage:	Temp.: 24.9°C/ Unom.: 3 VDC (Battery)
Test Specification:	according to Section15.231
Comment 1:	Dist.: 3m, Ant.: HK 116
	Freq: 199.659MHz, Emax: 34.60dBµV/m, RBW: 100kHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

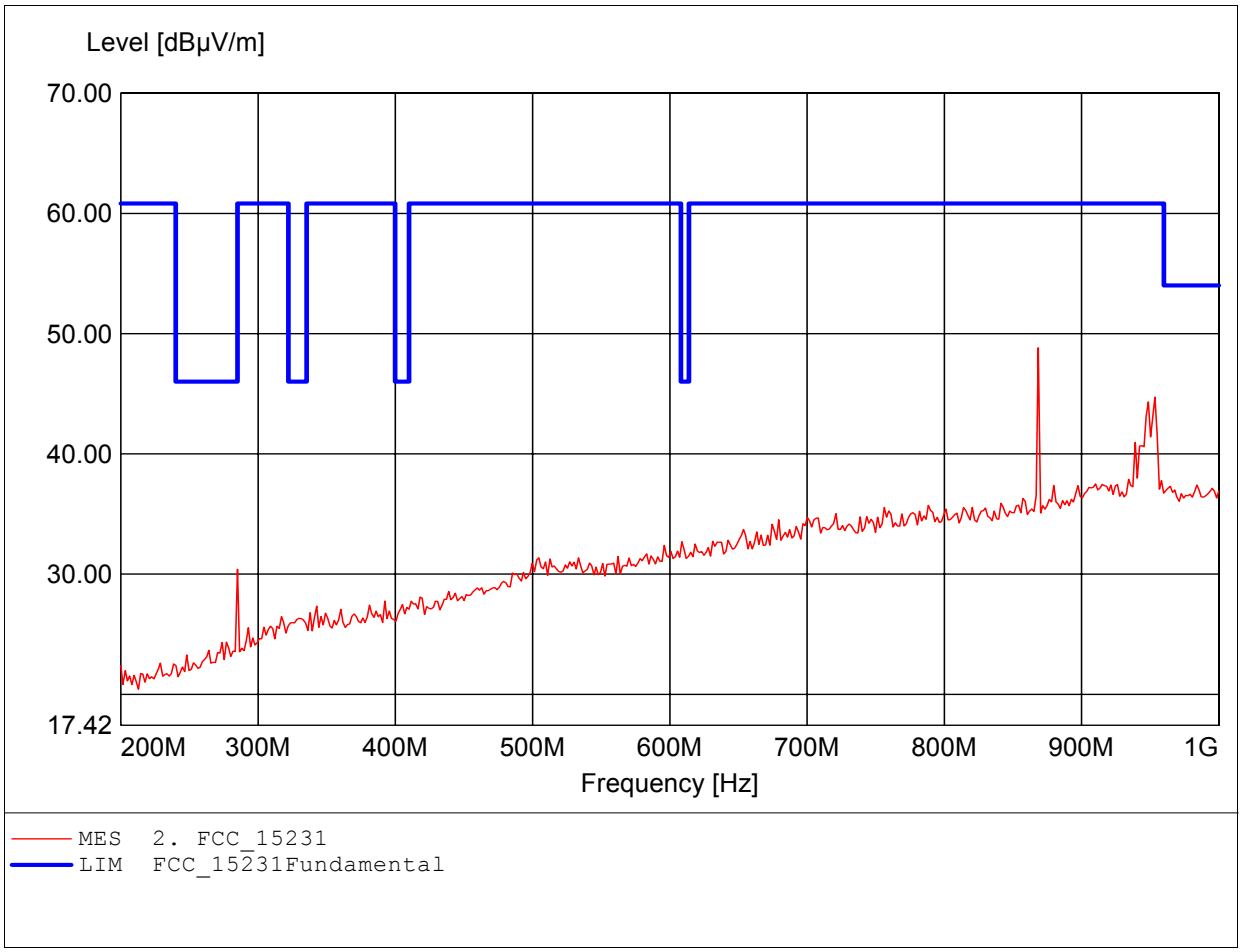
EUT:	Remote Start Disabler (Transmitter)
MODEL NO.:	TX-3311RS
Approval Holder:	Sim Tech System, LLC.
Test Site / Operator:	ETS / Catey
Temperature/Voltage:	Temp.: 24.9°C/ Unom.: 3 VDC (Battery)
Test Specification:	according to Section15.231
Comment 1:	Dist.: 3m, Ant.: HL 223, amplif.
	Freq: 868.537MHz, Emax: 54.60dBµV/m, RBW: 100kHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

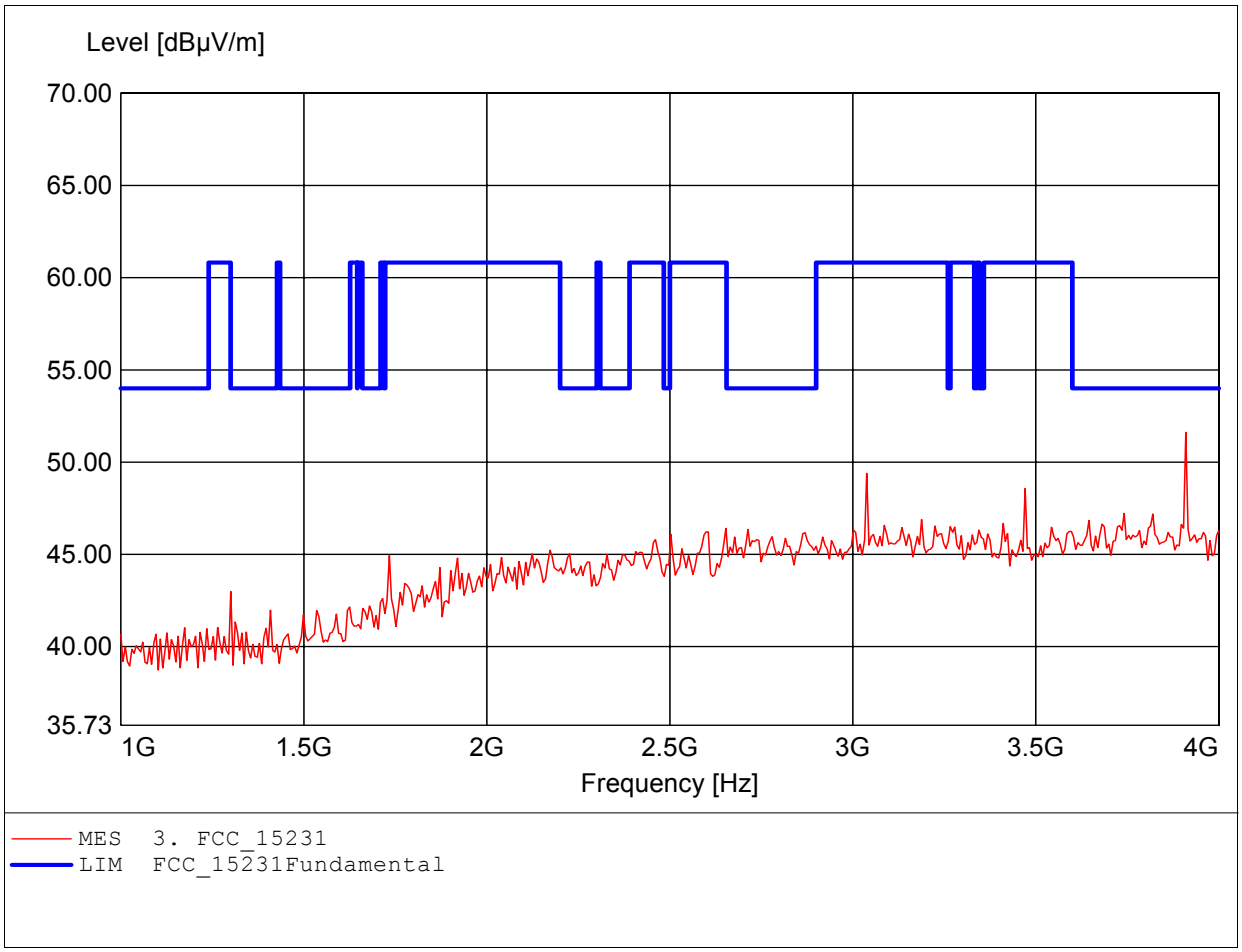
EUT:	Remote Start Disabler (Transmitter)
MODEL NO.:	TX-3311RS
Approval Holder:	Sim Tech System, LLC.
Test Site / Operator:	ETS / Catey
Temperature/Voltage:	Temp.: 24.9°C/ Unom.: 3 VDC (Battery)
Test Specification:	according to Section15.231
Comment 1:	Dist.: 3m, Ant.: HL 223, amplif.
	Freq: 868.537MHz, Emax: 48.82dBµV/m, RBW: 100kHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

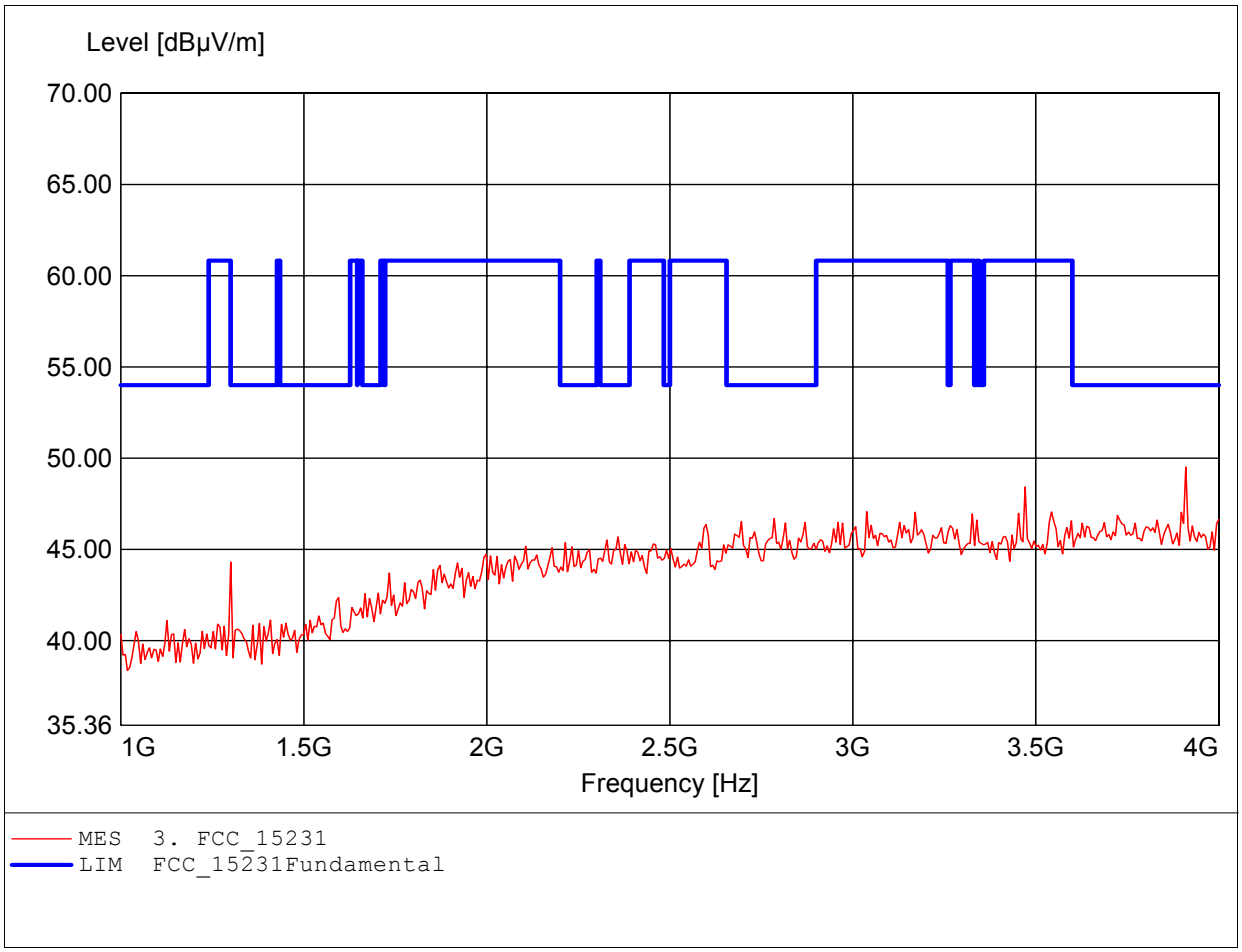
EUT:	Remote Start Disabler (Transmitter)
MODEL NO.:	TX-3311RS
Approval Holder:	Sim Tech System, LLC.
Test Site / Operator:	ETS / Catey
Temperature/Voltage:	Temp.: 24.9°C/ Unom.: 3 VDC (Battery)
Test Specification:	according to Section 15.231, peak detector
Comment 1:	Dist.: 3m, Ant.: HL025, amplif.
	Freq: 3.910GHz, Emax: 51.61dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

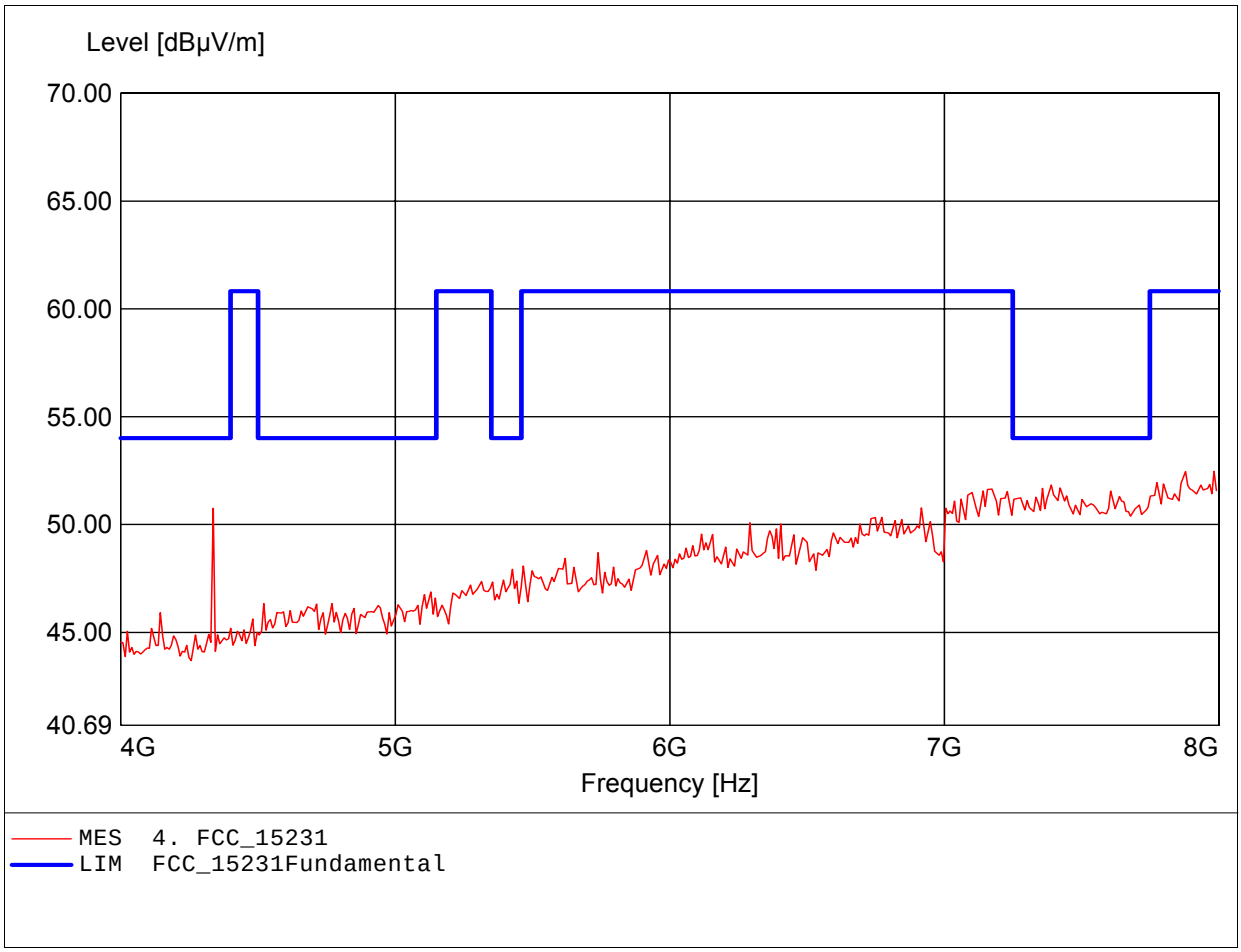
EUT:	Remote Start Disabler (Transmitter)
MODEL NO.:	TX-3311RS
Approval Holder:	Sim Tech System, LLC.
Test Site / Operator:	ETS / Catey
Temperature/Voltage:	Temp.: 24.9°C/ Unom.: 3 VDC (Battery)
Test Specification:	according to Section 15.231, peak detector
Comment 1:	Dist.: 3m, Ant.: HL025, amplif.
	Freq: 3.910GHz, Emax: 49.50dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

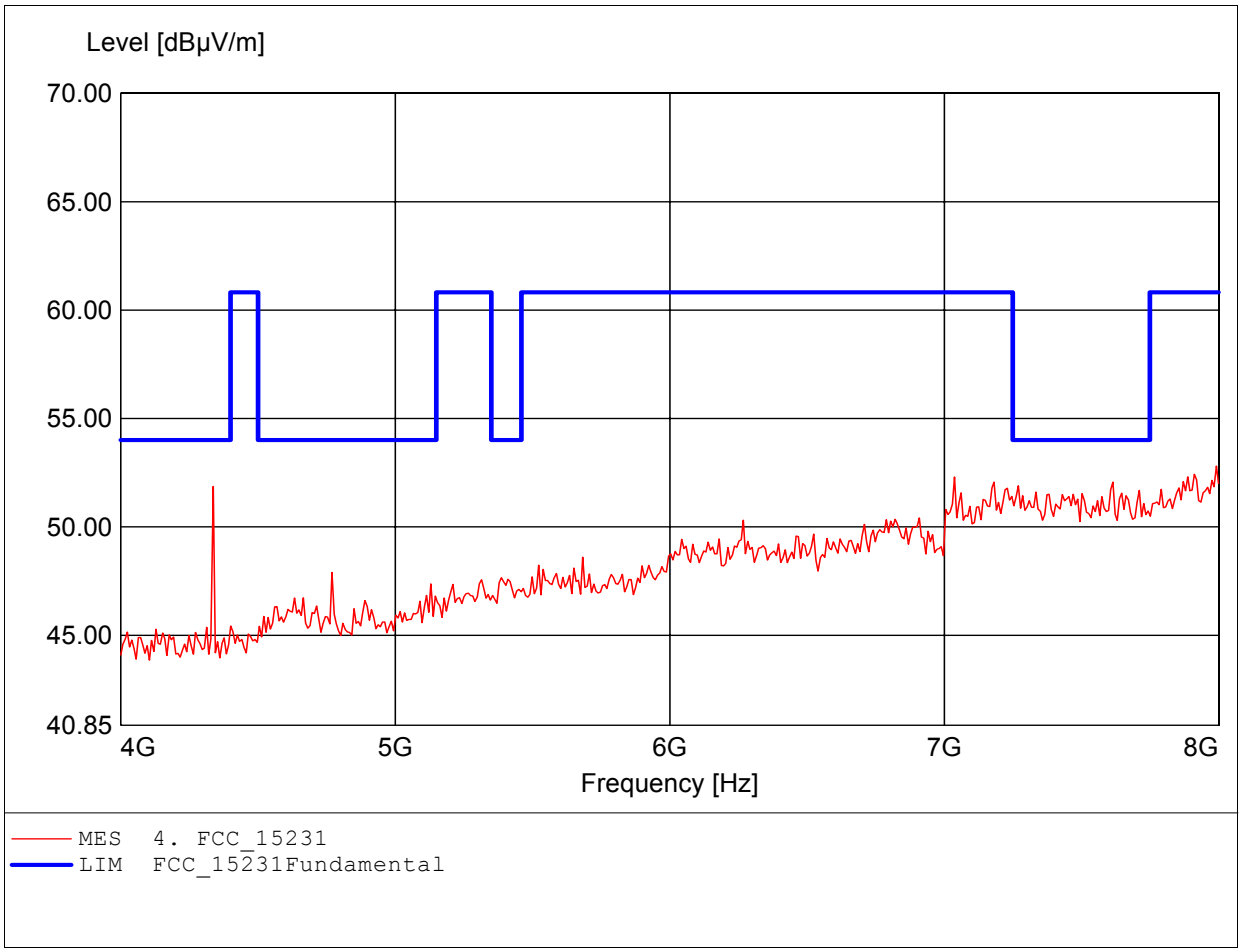
EUT:	Remote Start Disabler (Transmitter)
MODEL NO.:	TX-3311RS
Approval Holder:	Sim Tech System, LLC.
Test Site / Operator:	ETS / Catey
Temperature/Voltage:	Temp.: 24.9°C/ Unom.: 3 VDC (Battery)
Test Specification:	according to Section 15.231, peak detector
Comment 1:	Dist.: 3m, Ant.: HL025, ampl.+HP.
	Freq: 7.984GHz, Emax: 52.47dBµV/m, RBW: 1MHz



Spurious emissions Field Strength

FCC RULES PART 15, SUBPART C

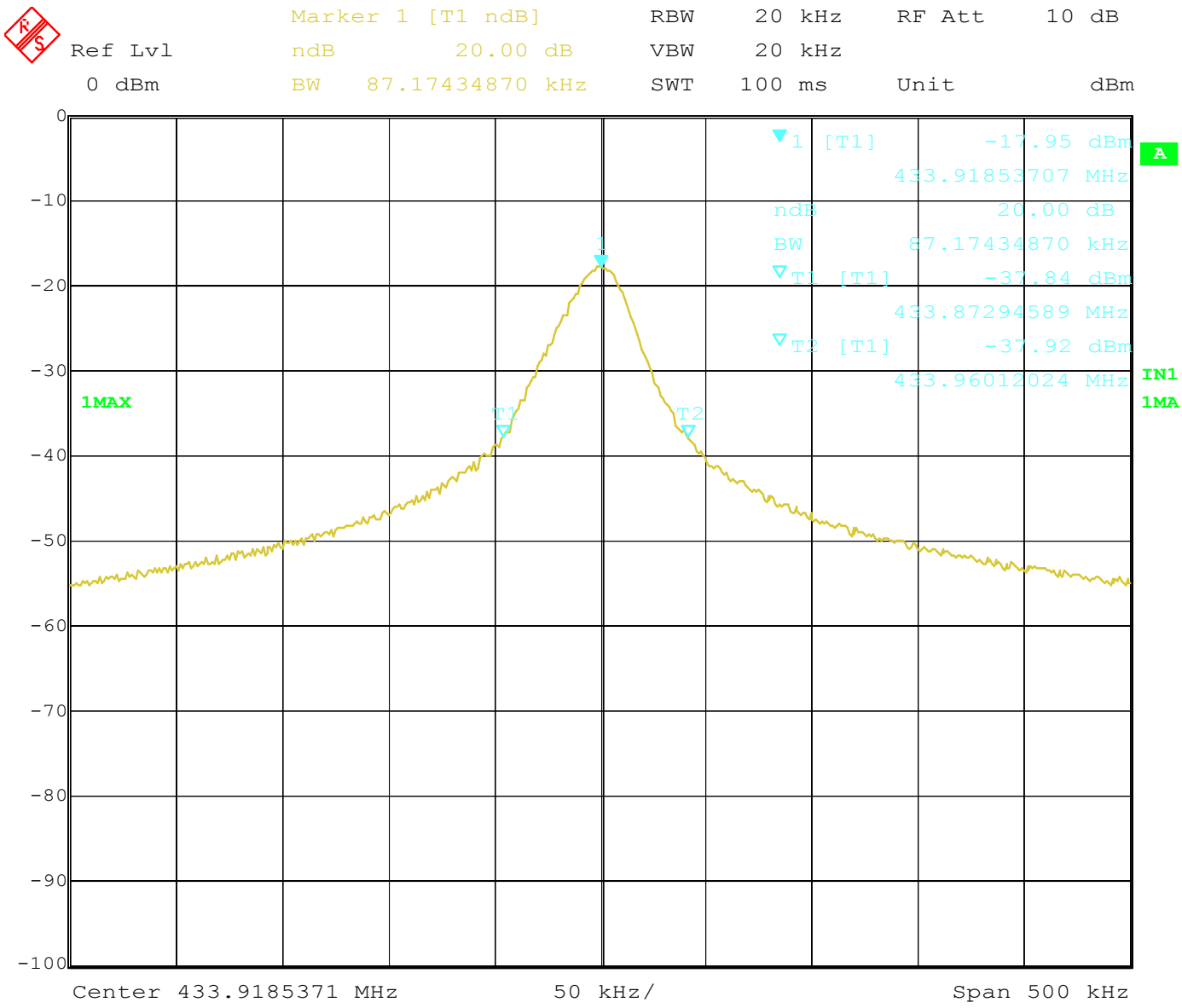
EUT:	Remote Start Disabler (Transmitter)
MODEL NO.:	TX-3311RS
Approval Holder:	Sim Tech System, LLC.
Test Site / Operator:	ETS / Catey
Temperature/Voltage:	Temp.: 24.9°C/ Unom.: 3 VDC (Battery)
Test Specification:	according to Section 15.231, peak detector
Comment 1:	Dist.: 3m, Ant.: HL025, ampl.+HP.
	Freq: 7.992GHz, Emax: 52.80dBµV/m, RBW: 1MHz



Registration number: W6M20605-6945-C-1
FCC ID: QMWTX-3311RS

Appendix D

Bandwidth



Title: 20dB bandwidth

Date: 12.MAY.2006 16:47:00

Registration number: W6M20605-6945-C-1
FCC ID: QMWTX-3311RS

Appendix E

Pictures