

MUNICIPAL COURT

LAKEWOOD • UNIVERSITY PLACE • STEILACOOM • DUPONT

SUSAN ADAMS
MUNICIPAL COURT
JUDGE

DEANA L. WRIGHT
MUNICIPAL COURT
ADMINISTRATOR

Speed Measuring Device Certificates for Lakewood 2017-2019





Cascade Engineering Services, Inc.

6640 185th Ave. NE, Redmond, WA 98052
T.425.895.8617, F.425.702.9358



CERTIFICATION CONCERNING DESIGN AND CONSTRUCTION
OF ELECTRONIC SPEED MEASURING DEVICE

FILED

IRLJ RULE 6.6 EFFECTIVE 10/31/2000

MAR 13 2017

I, Charles N. Brown do certify under penalty of perjury as follows:

I am employed with Cascade Engineering Services, Inc. (CES) Metrology and Electronic Repair Services, as a Senior Metrology Technician, specialized in Speed Measuring Device (SMD) technology. I have been employed in such a capacity for 32 years. Part of my duties include supervising others and the maintenance and repair of all electronic Doppler and Laser speed measuring devices (SMD's) utilized by the LAKEWOOD POLICE DEPARTMENT

I maintain the following qualifications with respect to the below stated SMD(s): Twelve years military experience in electronics, which included the repair and calibration of airborne and ground radar systems. I have over 15 years experience in the repair and calibration of Doppler and Lidar SMD's. I have successfully completed factory training in the repair and service of Laser Speed Detection systems by LTI, Inc. Graduate of Washington Technical Institute. I have successfully completed courses in the repair and calibration of measuring instruments. I am experienced and competent in the principles and fundamental requirements of calibration from DC to Microwave frequencies.

CES Metrology Laboratory is audited periodically by American Association for Laboratory Accreditation (A2LA) to ensure and maintain our ISO/IEC 17025:2005 accreditation and certification, (No. 2560.01), for technical competence. Our laboratory maintains manuals specific to the above stated SMD(s). I am personally familiar with those manuals and how each of the SMD's is designed and operates. The SMD's listed above were calibrated and tested under my direction on the Calibration Date/s listed above. The unit/s were serviced to meet or exceed existing performance standards.

All Doppler are tested as follows: The Vocar HR, handheld Radar certification system, Serial number VHR0510120 is used to calibrate Doppler SMD devices. The Vocar HR is calibrated annually by the manufacturer. The Vocar HR is used to simulate speeds at 5 mph increments from 20 mph to 140 mph to verify accuracy in stationary and moving mode. Measurements are taken of the SMD transmit frequency, antenna/receiver sensitivity and any accompanying tuning forks are also tested for accuracy. All other operational functions of the SMD system are then tested for proper performance.

The Laser SMD sends out a series of very focused light wave pulses each time the trigger is pulled and utilizes two laws of physics time and distance (i.e. 3.5 feet in diameter at 1000 ft). Since the speed of light is a known value, the distance of the target can be determined by calculating how long it takes for the signal to travel to the target and back. This series of measurements will allow the SMD to calculate the speed of the target by measuring the distance traveled in an amount of time (usually less than a second for a veritable display). The displayed speed will be accurate to within ± 1 MPH.

All Lidars are tested as follows: The Lidars Crystal Oscillator Reference Frequency test confirms that the output frequency of the Lidar is within the accepted range for the output of the device. This test is performed using a Hewlett Packard 53131A Frequency Counter, SN: 3546A10749, which is calibrated annually by Agilent Technologies. The HUD Alignment test confirms the Heads-Up Display is in proper alignment. The fixed distance test verifies that the Lidar correctly measures fixed distances within tolerances set by the Manufacturer. The Delta Distance test then ensures the math microprocessor is working properly. Nominal distances are traceable to Lufkin 0-300ft tape measure, SN: L1709, which is calibrated once every 3 years. The Lidars output power is tested using an Ophir Nova Display SN. 70228, with a PD300-SH power head, SN. 68814.

Based upon my education, training, experience, and knowledge of the SMD listed above, it is my opinion that each of these electronic pieces of equipment is so designed and constructed as to accurately employ the Doppler effect in such a manner that it will produce accurate measurements of the speed of motor vehicles when properly calibrated and operated by trained operator or, in the case of the laser SMD each of these pieces of equipment is so designed and constructed as to accurately employ measurement techniques based on the velocity of light in such a manner that it will produce accurate measurements of the speed of motor vehicles when properly calibrated and operated by a trained operator.

This agency, LAKEWOOD POLICE DEPARTMENT currently uses the following SMD(s):

Serial Number	Model Number	Antenna 1 S/N	Antenna 2 S/N	T.F. 1 S/N	T.F. 2 S/N	Cal Date	Cal. Interval	Due Date
TJ000427	LTI 20-20	N/A	N/A	N/A	N/A	02/01/2017	12 MONTHS	02/01/2018
TJ000798	LTI 20-20 TRUSPEEC	N/A	N/A	N/A	N/A	02/01/2017	12 MONTHS	02/01/2018
TJ000799	LTI 20-20 TRUSPEEC	N/A	N/A	N/A	N/A	03/03/2017	12 MONTHS	03/03/2018
TJ000801	LTI 20-20 TRUSPEEC	N/A	N/A	N/A	N/A	02/01/2017	12 MONTHS	02/01/2018
TJ000813	LTI 20-20 TRUSPEEC	N/A	N/A	N/A	N/A	02/01/2017	12 MONTHS	02/01/2018
TJ000191	LTI 20/20 TRU SPEEC	N/A	N/A	N/A	N/A	02/01/2017	12 MONTHS	02/01/2018
TJ000192	LTI 20/20 TRU SPEEC	N/A	N/A	N/A	N/A	02/01/2017	12 MONTHS	02/01/2018
TJ000194	LTI 20/20 TRU SPEEC	N/A	N/A	N/A	N/A	02/01/2017	12 MONTHS	02/01/2018
TJ000195	LTI 20/20 TRU SPEEC	N/A	N/A	N/A	N/A	02/01/2017	12 MONTHS	02/01/2018
TJ003457	LTI 20/20 TRU SPEEC	N/A	N/A	N/A	N/A	02/01/2017	12 MONTHS	02/01/2018
TJ003458	LTI 20/20 TRU SPEEC	N/A	N/A	N/A	N/A	12/22/2016	12 MONTHS	12/22/2017
PL31986	PRO LASER III	N/A	N/A	N/A	N/A	02/01/2017	12 MONTHS	02/01/2018
PL31987	PRO LASER III	N/A	N/A	N/A	N/A	02/01/2017	12 MONTHS	02/01/2018
BEE665000388	BEE	BEN653000917	BEN653000918	747779	749718	02/01/2017	24 MONTHS	02/01/2019
664008614	BEE III	BEN653021584	BEN653021585	392233	392408	02/01/2017	24 MONTHS	02/01/2019
664008616	BEE III	BEN653021589	BEN653021588	392248	392252	02/01/2017	24 MONTHS	02/01/2019
930002315	BEE III	BEN653013012	BEN653013013	965532	965523	02/01/2017	24 MONTHS	02/01/2019
GHD-04683	GENESIS HANDHELI	HANDHELD	N/A	156143	156034	02/01/2017	24 MONTHS	02/01/2019
GHD-04684	GENESIS HANDHELI	HANDHELD	N/A	156169	156049	02/01/2017	24 MONTHS	02/01/2019
GHD-04731	GENESIS HANDHELI	HANDHELD	N/A	156162	N/A	02/15/2017	24 MONTHS	02/15/2019
GHD-04737	GENESIS HANDHELI	HANDHELD	N/A	070682	N/A	02/01/2017	24 MONTHS	02/01/2019
GHD-04811	GENESIS HANDHELI	HANDHELD	N/A	156087	156047	02/01/2017	24 MONTHS	02/01/2019
GHD-04828	GENESIS HANDHELI	HANDHELD	N/A	6728	N/A	02/01/2017	24 MONTHS	02/01/2019
GHD-04831	GENESIS HANDHELI	HANDHELD	N/A	156072	156002	02/15/2017	24 MONTHS	02/15/2019
GHD-04864	GENESIS HANDHELI	HANDHELD	N/A	156111	155998	02/01/2017	24 MONTHS	02/01/2019
GHD-04866	GENESIS HANDHELI	HANDHELD	N/A	969092	969130	02/01/2017	24 MONTHS	02/01/2019
GHD-04891	GENESIS HANDHELI	HANDHELD	N/A	24415	N/A	02/01/2017	24 MONTHS	02/01/2019
GHD-04897	GENESIS HANDHELI	HANDHELD	N/A	156170	156031	02/01/2017	24 MONTHS	02/01/2019
PYT546001907	PYTHON	PYT315008028	PYT315008029	55522	51534	02/01/2017	24 MONTHS	02/01/2019
PYT546007252	PYTHON	PYT315017407	PYT315017406	413618	413531	02/01/2017	24 MONTHS	02/01/2019
PYT546007254	PYTHON	PYT315017410	PYT315017411	286377	286435	02/01/2017	24 MONTHS	02/01/2019
PYT546007255	PYTHON	PYT315017412	PYT315017413	413620	413543	02/01/2017	24 MONTHS	02/01/2019
PYT546003677	PYTHON II	PYT315011093	PYT315017411	298415	314654	02/01/2017	24 MONTHS	02/01/2019
PYT546007250	PYTHON II	PYT315017402	PYT315017403	967227	965901	02/01/2017	24 MONTHS	02/01/2019
PYT846005439	PYTHON II	PYT831008126	PYT831008126	490653	490701	02/01/2017	24 MONTHS	02/01/2019
PYT846005440	PYTHON II	PYT831008127	PYT831008128	490725	490680	02/01/2017	24 MONTHS	02/01/2019
PYT846005441	PYTHON II	PYT831008131	PYT831008132	490706	490714	02/01/2017	24 MONTHS	02/01/2019
PYT846005442	PYTHON II	PYT831008129	PYT831008130	490733	490715	02/01/2017	24 MONTHS	02/01/2019
PYT846005443	PYTHON II	PYT831008133	PYT831008134	490711	490742	02/01/2017	24 MONTHS	02/01/2019
PYT846003459	PYTHON III	PYT381004080	PYT855004542	077808	077822	02/01/2017	24 MONTHS	02/01/2019
PYT846003644	PYTHON III	PYT831004153	PYT855004836	077880	077834	02/01/2017	24 MONTHS	02/01/2019
HHM556000951	SPEED GUN	HANDHELD	N/A	966359	070908	02/01/2017	24 MONTHS	02/01/2019
HHM556000952	SPEED GUN	HANDHELD	N/A	964957	854604	02/01/2017	24 MONTHS	02/01/2019
DB007616	STALKER DSR 2X	KC120824	KR034427	241372	348888	01/25/2017	24 MONTHS	01/25/2019
DB007707	STALKER DSR 2X	KC120808	KR034424	241573	348889	01/25/2017	24 MONTHS	01/25/2019
DB007711	STALKER DSR 2X	KC120822	KR034416	241374	348890	01/25/2017	24 MONTHS	01/25/2019
DB007727	STALKER DSR 2X	KC123399	KR034420	241577	348891	01/25/2017	24 MONTHS	01/25/2019
DP14215	STALKER DSR 2X	KR014265	KC042312	185380	286539	02/01/2017	24 MONTHS	02/01/2019
DP14218	STALKER DSR 2X	KR014335	KC042330	185379	286540	02/01/2017	24 MONTHS	02/01/2019
DP14222	STALKER DSR 2X	KC042309	KR014266	185377	286537	03/08/2016	24 MONTHS	03/08/2018
DP14228	STALKER DSR 2X	KR014333	KC042254	185378	286538	03/08/2016	24 MONTHS	03/08/2018
DC099952	STALKER DUAL SL	KA073616	KA073625	168766	268481	02/01/2017	24 MONTHS	02/01/2019
DC110305	STALKER DUAL SL	KC076550	KC076563	FA212572	FB315145	02/01/2017	24 MONTHS	02/01/2019
5238	VINDICATOR	N/A	N/A	72362	N/A	02/15/2017	24 MONTHS	02/15/2019
5239	VINDICATOR	HANDHELD	N/A	1672	N/A	02/01/2017	24 MONTHS	02/01/2019
5240	VINDICATOR	HANDHELD	N/A	298388	N/A	02/01/2017	24 MONTHS	02/01/2019
5245	VINDICATOR	N/A	N/A	6887	N/A	02/01/2017	24 MONTHS	02/01/2019

This agency, LAKEWOOD POLICE DEPARTMENT currently uses the following SMD(s):

Serial Number	Model Number	Antenna 1 S/N	Antenna 2 S/N	T.F. 1 S/N	T.F. 2 S/N	Cal Date	Cal. Interval	Due Date
5246	VINDICATOR	HANDHELD	N/A	6886	N/A	02/01/2017	24 MONTHS	02/01/2019
5250	VINDICATOR	N/A	N/A	15227	N/A	02/15/2017	24 MONTHS	02/15/2019
HHS568000846	Z-15	HANDHELD	N/A	298375	N/A	02/01/2017	24 MONTHS	02/01/2019
HHS568000847	Z-15	HANDHELD	N/A	070704	N/A	02/01/2017	24 MONTHS	02/01/2019

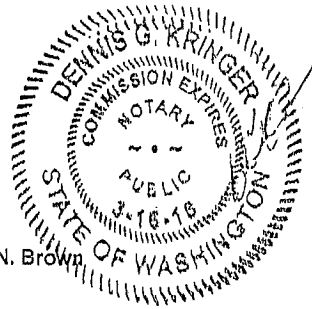
State of Washington
County of King

Signed or attested before me on 3/7/17

C.N. Brown by Charles N. Brown

I have satisfactory evidence that the person described in this document:

- (a) is personally known to me; OR (b) is identified upon oath or affirmation of credible witness personally know to me; OR (c) is identified on the basis of identification documents.



Dennis G. Kringer
Dennis G. Kringer
Notary Public in and for the State of Washington,
Residing in Bellevue, WA
My appointment expires March 16, 2018

Charles N. Brown
Certified by: Charles N. Brown
Place: Redmond, WA

FILED

MAR 13 2017

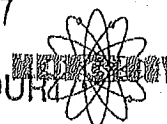


Cascade Engineering Services, Inc.

12028 116th Ave NE, Suite 102 Kirkland, WA 98034

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MUNICIPAL COURT



CERTIFICATION CONCERNING DESIGN AND CONSTRUCTION
OF ELECTRONIC SPEED MEASURING DEVICES

I, Charles N. Brown do certify under penalty of perjury under the laws of the State of Washington that the following is true and correct:

I, Charles N. Brown am employed with Cascade Engineering Services, Inc. (CES) Metrology and Electronic Repair Services, as a Senior Metrology Technician, specialized in Speed Measuring Device (SMD) technology, and assigned as co-custodian of SMD records. I have been employed in such a capacity for 32 years. Part of my duties include supervising others in the maintenance and repair of all electronic Doppler and Laser speed measuring devices (SMD's) utilized by the . The uses the SMD(s) listed in the table below.

I maintain the following qualifications with respect to SMD(s): Twelve years military experience in electronics, which included the repair and calibration of airborne and ground radar systems. I have over 16 years experience in the repair and calibration of Doppler and Lidar SMD's. I have successfully completed factory training in the repair and service of Laser Speed Detection systems by LTI, Inc. Graduate of Washington Technical Institute. I have successfully completed courses in the repair and calibration of measuring instruments. I am experienced and competent in the principles and fundamental requirements of calibration from DC to Microwave frequencies.

CES Metrology Laboratory is audited periodically by American Association for Laboratory Accreditation (A2LA) to ensure and maintain our ISO/IEC 17025:2006 accreditation and certification, (No. 2560.01), for technical competence. The CES laboratory is an authorized service center for all makes and models of SMD(s) used by the . Our laboratory maintains manuals specific to these SMD(s), which are available for public inspection upon request. I am personally familiar with those manuals and am personally familiar with the design, construction and operation of each of the SMD(s) listed below. Each of these SMD(s) are so designed and constructed to accurately and reliably employ the Doppler Radar principle or the measurement techniques based on the velocity of light as a constant, as the case may be, in such a manner that each of them will give accurate and reliable measurement of the speed of motor vehicles when used by a trained operator. Each of the SMD's were calibrated and tested under my direction on the Calibration Date(s) indicated in the table below. The unit(s) were serviced to meet or exceed existing performance standards.

The CES laboratory tests all Doppler SMD's used by the at least every two years, as recommended by the manufacturer, as follows: The Vocar HR, handheld Radar certification system, Serial number VHR0510120 is used to calibrate Doppler SMD devices. The Vocar HR is calibrated annually by the manufacturer. The Vocar HR is used to simulate speeds at 5 mph increments from 20 mph to 140 mph to verify accuracy in stationary and moving mode. Measurements are taken of the SMD transmit frequency, antenna/receiver sensitivity and any accompanying tuning forks are also tested for accuracy. All other operational functions of the SMD system are then tested for proper performance.

The Laser SMD's transmit a series of highly focused light wave pulses each time the trigger is pulled and utilizes two laws of physics; time and distance (i.e. 3.5 feet in diameter at 1000 ft). Since the speed of light is a known value, the distance of the target is determined by calculating how long it takes for the signal to travel to the target and back. This series of measurements allows the SMD to calculate the speed of the target by measuring the distance traveled in time (usually less than a second for a verifiable display). The displayed speed is accurate to within plus (+) or minus (-) one (1) mile per hour.

The CES laboratory tests all Laser / Lidar SMD(s) used by the , at least every two years, as recommended by the manufacturer, as follows: The Laser Speed Measurement Simulator (LSMS SN: SS000043) is used to simulate a moving target. This is accomplished by detecting the optical output pulses of the laser device and generating artificial return pulses. Different speed values and ranges are simulated by varying the time delays between the input pulses and the return pulses. The LSMS consists of a Digital Delay Generator (DDG), and an optical interface unit (SN: OH000030). The DDG produces precise time delays. The optical interface unit converts the optical energy of the laser instrument into electrical signals which are supplied to the DDG. The optical interface unit also converts the electrical signals received from the DDG into optical energy which is then transmitted to the Lidar. The Lidars output power is tested using an Ophir Nova Display SN. 70228, with a PD300-SH power head, SN. 68814.

Based upon my education, training, experience, and knowledge of the SMD(s) listed below, it is my opinion that each of these electronic pieces of equipment is so designed and constructed as to accurately and reliably employ the Doppler effect in such a manner that it will produce measurements of the speed of motor vehicles when properly calibrated and operated by a trained operator accurate to within plus (+) or minus (-) one (1) mile per hour or, in the case of the Laser/Lidar SMD(s), each of these pieces of equipment is so designed and constructed as to accurately and reliably employ measurement techniques based on the velocity of light in such a manner that it will produce measurements of the speed of motor vehicles when properly calibrated and operated by a trained operator accurate to within plus (+) or minus (-) one (1) mile per hour.

This agency, LAKEWOOD POLICE DEPARTMENT currently utilizes the following Laser SMD(s):

KUSTOM Manufacturer's the following SMD(s)

ID/Serial Number	Model Number	Antenna 1 S/N	Antenna 2 S/N	T.F. 1 S/N	T.F. 2 S/N	Cal. Date	Cal. Interval	Due Date
PL31986	PRO LASER III	N/A	N/A	N/A	N/A	02/01/2017	12 MONTHS	02/01/2018
PL31987	PRO LASER III	N/A	N/A	N/A	N/A	02/01/2017	12 MONTHS	02/01/2018

LASER TECHNOLOGY INC Manufacturer's the following SMD(s)

ID/Serial Number	Model Number	Antenna 1 S/N	Antenna 2 S/N	T.F. 1 S/N	T.F. 2 S/N	Cal. Date	Cal. Interval	Due Date
TJ000191	LTI 20/20 TRU SPEE	N/A	N/A	N/A	N/A	02/01/2017	12 MONTHS	02/01/2018
TJ000192	LTI 20/20 TRU SPEE	N/A	N/A	N/A	N/A	02/01/2017	12 MONTHS	02/01/2018
TJ000194	LTI 20/20 TRU SPEE	N/A	N/A	N/A	N/A	02/01/2017	12 MONTHS	02/01/2018
TJ000196	LTI 20/20 TRU SPEE	N/A	N/A	N/A	N/A	02/01/2017	12 MONTHS	02/01/2018
TJ000427	LTI 20-20	N/A	N/A	N/A	N/A	02/01/2017	12 MONTHS	02/01/2018
TJ000798	LTI 20-20 TRUSPEE	N/A	N/A	N/A	N/A	02/01/2017	12 MONTHS	02/01/2018
TJ000799	LTI 20-20 TRUSPEE	N/A	N/A	N/A	N/A	03/03/2017	12 MONTHS	03/03/2018
TJ000801	LTI 20-20 TRUSPEE	N/A	N/A	N/A	N/A	02/01/2017	12 MONTHS	02/01/2018
TJ003457	LTI 20/20 TRU SPEE	N/A	N/A	N/A	N/A	12/22/2016	12 MONTHS	12/22/2017
TJ003458	LTI 20/20 TRU SPEE	N/A	N/A	N/A	N/A	02/01/2017	12 MONTHS	02/01/2018

LASER TECHNOLOGY INC. Manufacturer's the following SMD(s)

ID/Serial Number	Model Number	Antenna 1 S/N	Antenna 2 S/N	T.F. 1 S/N	T.F. 2 S/N	Cal. Date	Cal. Interval	Due Date
TJ000813	LTI 20-20 TRUSPEE	N/A	N/A	N/A	N/A	02/01/2017	12 MONTHS	02/01/2018

This agency, LAKEWOOD POLICE DEPARTMENT currently utilizes the following Doppler SMD(s):

APPLIED CONCEPTS Manufacturer's the following SMD(s)

ID/Serial Number	Model Number	Antenna 1 S/N	Antenna 2 S/N	T.F. 1 S/N	T.F. 2 S/N	Cal. Date	Cal. Interval	Due Date
DB007616	STALKER DSR 2X	KC120824	KR034427	241372	348888	01/25/2017	24 MONTHS	01/25/2019
DB007707	STALKER DSR 2X	KC120808	KR034424	241573	348889	01/25/2017	24 MONTHS	01/25/2019
DB007711	STALKER DSR 2X	KC120822	KR034416	241374	348890	01/25/2017	24 MONTHS	01/25/2019
DB007727	STALKER DSR 2X	KC123399	KR034420	241577	348891	01/25/2017	24 MONTHS	01/25/2019
DC099952	STALKER DUAL SL	KA073618	KA073625	188766	268481	02/01/2017	24 MONTHS	02/01/2019
DC110306	STALKER DUAL SL	KC076550	KC076563	FA212572	FB315145	02/01/2017	24 MONTHS	02/01/2019
DP14216	STALKER DSR 2X	KR014265	KC042312	185380	286539	02/01/2017	24 MONTHS	02/01/2019
DP14218	STALKER DSR 2X	KR014335	KC042330	185379	286540	02/01/2017	24 MONTHS	02/01/2019
DP14228	STALKER DSR 2X	KR014333	KC042254	185378	286538	03/08/2016	24 MONTHS	03/08/2018

APPLIED CONCEPTS INC. Manufacturer's the following SMD(s)

ID/Serial Number	Model Number	Antenna 1 S/N	Antenna 2 S/N	T.F. 1 S/N	T.F. 2 S/N	Cal. Date	Cal. Interval	Due Date
DP14222	STALKER DSR 2X	KC042309	KR014266	185377	286537	03/08/2016	24 MONTHS	03/08/2018

This agency, LAKEWOOD POLICE DEPARTMENT currently utilizes the following Doppler SMD(s):

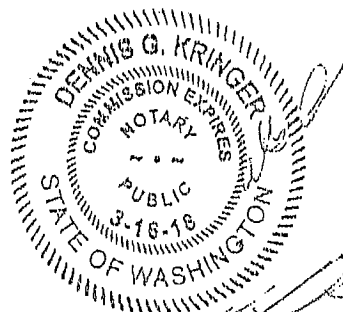
DECATUR Manufacturer's the following SMD(s)

ID/Serial Number	Model Number	Antenna 1 S/N	Antenna 2 S/N	T.F. 1 S/N	T.F. 2 S/N	Cal. Date	Cal. Interval	Due Date
GHD-04683	GENESIS HANDHELI	HANDHELD	N/A	156143	156034	02/01/2017	24 MONTHS	02/01/2019
GHD-04684	GENESIS HANDHELI	HANDHELD	N/A	156169	156049	02/01/2017	24 MONTHS	02/01/2019
GHD-04731	GENESIS HANDHELI	HANDHELD	N/A	156162	N/A	02/15/2017	24 MONTHS	02/15/2019
GHD-04737	GENESIS HANDHELI	HANDHELD	N/A	070682	N/A	02/01/2017	24 MONTHS	02/01/2019
GHD-04811	GENESIS HANDHELI	HANDHELD	N/A	166087	156047	02/01/2017	24 MONTHS	02/01/2019
GHD-04828	GENESIS HANDHELI	HANDHELD	N/A	6728	N/A	02/01/2017	24 MONTHS	02/01/2019
GHD-04831	GENESIS HANDHELI	HANDHELD	N/A	156072	156002	02/15/2017	24 MONTHS	02/15/2019
GHD-04864	GENESIS HANDHELI	HANDHELD	N/A	156111	156998	02/01/2017	24 MONTHS	02/01/2019
GHD-04866	GENESIS HANDHELI	HANDHELD	N/A	969092	969130	02/01/2017	24 MONTHS	02/01/2019
GHD-04891	GENESIS HANDHELI	HANDHELD	N/A	24415	N/A	02/01/2017	24 MONTHS	02/01/2019
GHD-04897	GENESIS HANDHELI	HANDHELD	N/A	156170	156031	02/01/2017	24 MONTHS	02/01/2019

MPH INDUSTRIES Manufacturer's the following SMD(s)

ID/Serial Number	Model Number	Antenna 1 S/N	Antenna 2 S/N	T.F. 1 S/N	T.F. 2 S/N	Cal. Date	Cal. Interval	Due Date
5238	VINDICATOR	N/A	N/A	72362	N/A	02/15/2017	24 MONTHS	02/15/2019
5239	VINDICATOR	HANDHELD	N/A	1672	N/A	02/01/2017	24 MONTHS	02/01/2019
5240	VINDICATOR	HANDHELD	N/A	298388	N/A	02/01/2017	24 MONTHS	02/01/2019
5245	VINDICATOR	N/A	N/A	6887	N/A	02/01/2017	24 MONTHS	02/01/2019
5246	VINDICATOR	HANDHELD	N/A	6886	N/A	02/01/2017	24 MONTHS	02/01/2019
5250	VINDICATOR	N/A	N/A	16227	N/A	02/15/2017	24 MONTHS	02/15/2019
664008814	BEE III	BEN653021584	BEN653021585	392233	392408	02/01/2017	24 MONTHS	02/01/2019
664008816	BEE III	BEN653021589	BEN653021588	392248	392252	02/01/2017	24 MONTHS	02/01/2019
930002315	BEE III	BEN653013012	BEN653013013	985532	985523	02/01/2017	24 MONTHS	02/01/2019
BEE665000388	BEE	BEN653000917	BEN653000918	747779	749718	02/01/2017	24 MONTHS	02/01/2019
HHM656000951	SPEED GUN	HANDHELD	N/A	966359	070908	02/01/2017	24 MONTHS	02/01/2019
HHM656000952	SPEED GUN	HANDHELD	N/A	964957	854804	02/01/2017	24 MONTHS	02/01/2019
HHS658000846	Z-15	HANDHELD	N/A	298375	N/A	02/01/2017	24 MONTHS	02/01/2019
HHS658000847	Z-15	HANDHELD	N/A	070704	N/A	02/01/2017	24 MONTHS	02/01/2019
PYT646001907	PYTHON	PYT315008028	PYT315008029	55522	51534	02/01/2017	24 MONTHS	02/01/2019
PYT646003877	PYTHON II	PYT315011063	PYT315017411	298415	314654	02/01/2017	24 MONTHS	02/01/2019
PYT646007250	PYTHON II	PYT315017402	PYT315017403	967227	965901	02/01/2017	24 MONTHS	02/01/2019
PYT646007252	PYTHON	PYT315017407	PYT315017406	413618	413631	02/01/2017	24 MONTHS	02/01/2019
PYT646007254	PYTHON	PYT315017410	PYT315017411	286377	286435	02/01/2017	24 MONTHS	02/01/2019
PYT646007255	PYTHON	PYT315017412	PYT315017413	413620	413643	02/01/2017	24 MONTHS	02/01/2019
PYT646003459	PYTHON III	PYT381004080	PYT855004542	077808	077822	02/01/2017	24 MONTHS	02/01/2019
PYT646003644	PYTHON III	PYT831004153	PYT855004836	077880	077834	02/01/2017	24 MONTHS	02/01/2019
PYT646005439	PYTHON II	PYT831008125	PYT831008126	490853	490701	02/01/2017	24 MONTHS	02/01/2019
PYT646005440	PYTHON II	PYT831008127	PYT831008128	490726	490680	02/01/2017	24 MONTHS	02/01/2019
PYT646005441	PYTHON II	PYT831008131	PYT831008132	490706	490714	02/01/2017	24 MONTHS	02/01/2019
PYT646005442	PYTHON II	PYT831008129	PYT831008130	490733	490715	02/01/2017	24 MONTHS	02/01/2019
PYT646005443	PYTHON II	PYT831008133	PYT831008134	490711	490742	02/01/2017	24 MONTHS	02/01/2019

Charles N. Brown
 Certified by: Charles N. Brown
 Place: Redmond, WA



March 7, 2017
 Date

MUNICIPAL COURT

LKW

JAN 09 2017



Cascade Engineering Services, Inc.

FILED



12026 115th Ave NE, Suite 102 Kirkland WA, 98034

T.425.895.8617, F.425.702.9358

CERTIFICATION CONCERNING DESIGN AND CONSTRUCTION
OF ELECTRONIC SPEED MEASURING DEVICES

IRLJ RULE 6.6 EFFECTIVE 10/31/2000

I, Charles N. Brown do certify under penalty of perjury as follows:

I am employed with Cascade Engineering Services, Inc. (CES) Metrology and Electronic Repair Services, as a Senior Metrology Technician, specialized in Speed Measuring Device (SMD) technology. I have been employed in such a capacity for 32 years. Part of my duties include supervising others in the maintenance and repair of all electronic Doppler and Laser speed measuring devices (SMD's) utilized by the LAKESIDE POLICE DEPARTMENT.

I maintain the following qualifications with respect to SMD(s): Twelve years military experience in electronics, which included the repair and calibration of airborne and ground radar systems. I have over 15 years experience in the repair and calibration of Doppler and Lidar SMD's. I have successfully completed factory training in the repair and service of Laser Speed Detection systems by LTI, Inc. Graduate of Washington Technical Institute. I have successfully completed courses in the repair and calibration of measuring instruments. I am experienced and competent in the principles and fundamental requirements of calibration from DC to Microwave frequencies.

CES Metrology Laboratory is audited periodically by American Association for Laboratory Accreditation (A2LA) to ensure and maintain our ISO/IEC 17025:2005 accreditation and certification, (No. 2560.01), for technical competence. Our laboratory maintains manuals specific to these SMD(s). I am personally familiar with those manuals and how each of the SMD's is designed and operates. The SMD's were calibrated and tested under my direction on the Calibration Date(s) indicated. The unit(s) were serviced to meet or exceed existing performance standards.

All Doppler SMD's are tested as follows: The Vocar HR, handheld Radar certification system, Serial number VHR0510120 is used to calibrate Doppler SMD devices. The Vocar HR is calibrated annually by the manufacturer. The Vocar HR is used to simulate speeds at 5 mph increments from 20 mph to 140 mph to verify accuracy in stationary and moving mode. Measurements are taken of the SMD transmit frequency, antenna/receiver sensitivity and any accompanying tuning forks are also tested for accuracy. All other operational functions of the SMD system are then tested for proper performance.

The Laser SMD's transmit a series of highly focused light wave pulses each time the trigger is pulled and utilizes two laws of physics; time and distance (i.e. 3.5 feet in diameter at 1000 ft). Since the speed of light is a known value, the distance of the target is determined by calculating how long it takes for the signal to travel to the target and back. This series of measurements allows the SMD to calculate the speed of the target by measuring the distance traveled in time (usually less than a second for a verifiable display). The displayed speed is accurate to within ± 1 MPH.

All Lidars tested on or before November 24, 2008 were performed as follows: The Lidars Crystal Oscillator Reference Frequency test confirms that the output frequency of the Lidar is within the accepted range for the output of the device. This test is performed using a Hewlett Packard 53131A Frequency Counter, SN: 3546A10749, which is calibrated annually by Agilent Technologies. The HUD Alignment test confirms the Heads-Up Display is in proper alignment. The fixed distance test verifies that the Lidar correctly measures fixed distances within tolerances set by the Manufacturer. The Delta Distance test then ensures the math microprocessor is working properly. Nominal distances are traceable to Lufkin 0-300ft tape measure, SN: L1709, which is calibrated once every 3 years. The Lidars output power is tested using an Ophir Nova Display SN. 70228, with a PD300-SH power head, SN. 68814.

All Lidars tested after November 24, 2008 will be tested as follows: The Laser Speed Measurement Simulator (LSMS SN: S0000043) is used to simulate a moving target. This is accomplished by detecting the optical output pulses of the laser device and generating artificial return pulses. Different speed values and ranges are simulated by varying the time delays between the input pulses and the return pulses. The LSMS consists of a Digital Delay Generator (DDG), and an optical interface unit (SN: OH000030). The DDG produces precise time delays. The optical interface unit converts the optical energy of the laser instrument into electrical signals which are supplied to the DDG. The optical interface unit also converts the electrical signals received from the DDG into optical energy which is then transmitted to the Lidar. The Lidars output power is tested using an Ophir Nova Display SN. 70228, with a PD300-SH power head, SN. 68814.

Based upon my education, training, experience, and knowledge of these SMD(s), it is my opinion that each of these electronic pieces of equipment is so designed and constructed as to accurately employ the Doppler effect in such a manner that it will produce accurate measurements of the speed of motor vehicles when properly calibrated and operated by trained operator or, in the case of the laser SMD each of these pieces of equipment is so designed and constructed as to accurately employ measurement techniques based on the velocity of light in such a manner that it will produce accurate measurements of the speed of motor vehicles when properly calibrated and operated by a trained operator.

This agency, LAKEWOOD POLICE DEPARTMENT currently utilizes the following Laser SMD(s):

KUSTOM Manufacturer's the following SMD(s)

ID/Serial Number	Model Number	Antenna 1 S/N	Antenna 2 S/N	T.F. 1 S/N	T.F. 2 S/N	Cal. Date	Cal. Interval	Due Date
PL19860	PRO LASER III	N/A	N/A	N/A	N/A	N/A 02/25/2016	12 MONTHS	02/25/2017
PL21056	PRO LASER III	N/A	N/A	N/A	N/A	N/A 02/24/2016	12 MONTHS	02/24/2017
PL31988	PRO LASER III	N/A	N/A	N/A	N/A	N/A 02/24/2016	12 MONTHS	02/24/2017
PL31987	PRO LASER III	N/A	N/A	N/A	N/A	N/A 02/24/2016	12 MONTHS	02/24/2017
PL31990	PRO LASER III	N/A	N/A	N/A	N/A	N/A 02/24/2016	12 MONTHS	02/24/2017

LASER TECHNOLOGY INC Manufacturer's the following SMD(s)

ID/Serial Number	Model Number	Antenna 1 S/N	Antenna 2 S/N	T.F. 1 S/N	T.F. 2 S/N	Cal. Date	Cal. Interval	Due Date
TJ000191	LTI 20/20 TRU SPEE	N/A	N/A	N/A	N/A	N/A 02/24/2016	12 MONTHS	02/24/2017
TJ000192	LTI 20/20 TRU SPEE	N/A	N/A	N/A	N/A	N/A 02/24/2016	12 MONTHS	02/24/2017
TJ000194	LTI 20/20 TRU SPEE	N/A	N/A	N/A	N/A	N/A 02/24/2016	12 MONTHS	02/24/2017
TJ000427	LTI 20-20	N/A	N/A	N/A	N/A	N/A 12/29/2016	12 MONTHS	12/29/2017
TJ000798	LTI 20-20 TRUSPEEC	N/A	N/A	N/A	N/A	N/A 09/09/2016	12 MONTHS	09/09/2017
TJ000799	LTI 20-20 TRUSPEEC	N/A	N/A	N/A	N/A	N/A 03/16/2016	12 MONTHS	03/16/2017
TJ000801	LTI 20-20 TRUSPEEC	N/A	N/A	N/A	N/A	N/A 12/22/2016	12 MONTHS	12/22/2017
TJ003455	LTI 20/20 TRU SPEE	N/A	N/A	N/A	N/A	N/A 05/13/2016	12 MONTHS	05/13/2016
TJ003456	LTI 20/20 TRU SPEE	N/A	N/A	N/A	N/A	N/A 02/24/2016	12 MONTHS	02/24/2017
TJ003457	LTI 20/20 TRU SPEE	N/A	N/A	N/A	N/A	N/A 12/22/2016	12 MONTHS	12/22/2017
TJ003458	LTI 20/20 TRU SPEE	N/A	N/A	N/A	N/A	N/A 07/13/2016	12 MONTHS	07/13/2017
TJ003459	LTI 20/20 TRU SPEE	N/A	N/A	N/A	N/A	N/A 05/13/2016	12 MONTHS	05/13/2016

LASER TECHNOLOGY INC. Manufacturer's the following SMD(s)

ID/Serial Number	Model Number	Antenna 1 S/N	Antenna 2 S/N	T.F. 1 S/N	T.F. 2 S/N	Cal. Date	Cal. Interval	Due Date
TJ000813	LTI 20-20 TRUSPEEC	N/A	N/A	N/A	N/A	N/A 02/24/2016	12 MONTHS	02/24/2017

LTI Manufacturer's the following SMD(s)

ID/Serial Number	Model Number	Antenna 1 S/N	Antenna 2 S/N	T.F. 1 S/N	T.F. 2 S/N	Cal. Date	Cal. Interval	Due Date
J05797/TJ000195	LTI 20/20 TRU SPEE	N/A	N/A	N/A	N/A	N/A 02/24/2016	12 MONTHS	02/24/2017

This agency, LAKEWOOD POLICE DEPARTMENT currently utilizes the following Doppler SMD(s):

APPLIED CONCEPTS Manufacturer's the following SMD(s)

ID/Serial Number	Model Number	Antenna 1 S/N	Antenna 2 S/N	T.F. 1 S/N	T.F. 2 S/N	Cal. Date	Cal. Interval	Due Date
DC099952	STALKER DUAL SL	KA073616	KA073625	168766	268481	06/24/2015	24 MONTHS	06/24/2017
DC110304	STALKER DUAL SL	KC076547	KC076551	FA212570	FB315146	06/24/2015	24 MONTHS	06/24/2017
DC110305	STALKER DUAL SL	KC076550	KC076553	FA212572	FB315145	06/24/2015	24 MONTHS	06/24/2017
DP013353	STALKER DSR 2X	KC0039069	KR013231	182916	282408	02/24/2016	24 MONTHS	02/24/2018
DP14101	STALKER DSR 2X	KC042327	KR014273	185376	286536	02/24/2016	24 MONTHS	02/24/2018
DP14215	STALKER DSR 2X	KR014265	KC042312	185380	286539	02/24/2016	24 MONTHS	02/24/2018
DP14218	STALKER DSR 2X	KR014335	KC042330	185379	286540	06/24/2015	24 MONTHS	06/24/2017
DP14220	STALKER DSR 2X	KR014333	KC042254	185378	286538	03/08/2016	24 MONTHS	03/08/2018

APPLIED CONCEPTS INC. Manufacturer's the following SMD(s)

ID/Serial Number	Model Number	Antenna 1 S/N	Antenna 2 S/N	T.F. 1 S/N	T.F. 2 S/N	Cal. Date	Cal. Interval	Due Date
DP14222	STALKER DSR 2X	KC042309	KR014266	185377	286537	03/08/2016	24 MONTHS	03/08/2018

DECATUR Manufacturer's the following SMD(s)

ID/Serial Number	Model Number	Antenna 1 S/N	Antenna 2 S/N	T.F. 1 S/N	T.F. 2 S/N	Cal. Date	Cal. Interval	Due Date
GHD-04683	GENESIS HANDHELI	HANDHELD	N/A	156143	156034	06/24/2015	24 MONTHS	06/24/2017
GHD-04754	GENESIS HANDHELI	HANDHELD	N/A	155997	N/A	06/24/2015	24 MONTHS	06/24/2017
GHD-04811	GENESIS HANDHELI	HANDHELD	N/A	156087	156047	02/24/2016	24 MONTHS	02/24/2018
GHD-04824	GENESIS HANDHELI	HANDHELD	N/A	156123	170689	02/24/2016	24 MONTHS	02/24/2018
GHD-04826	GENESIS HANDHELI	HANDHELD	N/A	55528	51531	02/24/2016	24 MONTHS	02/24/2018
GHD-04828	GENESIS HANDHELI	HANDHELD	N/A	6728	N/A	06/24/2015	24 MONTHS	06/24/2017
GHD-04831	GENESIS HANDHELI	HANDHELD	N/A	156072	156002	06/24/2015	24 MONTHS	06/24/2017
GHD-04866	GENESIS HANDHELI	HANDHELD	N/A	156142	156082	06/24/2015	24 MONTHS	06/24/2017
GHD-04890	GENESIS HANDHELI	HANDHELD	N/A	47291	N/A	02/24/2016	24 MONTHS	02/24/2018
GHD-04897	GENESIS HANDHELI	HANDHELD	N/A	156170	156031	02/25/2015	24 MONTHS	02/25/2017

This agency, LAKEWOOD POLICE DEPARTMENT currently utilizes the following Doppler SMD(s):

MPH INDUSTRIES Manufacturer's the following SMD(s)

ID/Serial Number	Model Number	Antenna 1 S/N	Antenna 2 S/N	T.F. 1 S/N	T.F. 2 S/N	Cal. Date	Cal. Interval	Due Date
5240	VINDICATOR	HANDHELD	N/A	298388	N/A	06/24/2016	24 MONTHS	06/24/2017
5240	VINDICATOR	HANDHELD	N/A	6886	N/A	06/24/2016	24 MONTHS	06/24/2017
664008614	BEE III	BEN653021584	BEN653021585	392233	392408	03/03/2016	24 MONTHS	03/03/2017
664008616	BEE III	BEN653021589	BEN653021588	392248	392262	02/25/2016	24 MONTHS	02/25/2017
930002313	BEE III	BEN653013004	BEN653013005	965581	965546	02/24/2016	24 MONTHS	02/24/2018
930002314	BEE III	BEN653013011	BEN653013010	965583	965516	06/24/2015	24 MONTHS	06/24/2017
930002315	BEE III	BEN653013012	BEN653013013	965523	965532	06/24/2015	24 MONTHS	06/24/2017
BEE664000372	BEE III	BEN653000920	BEN653000919	298611	298681	02/24/2016	24 MONTHS	02/24/2018
BEE664008617	BEE 36	BEE113001613	BEE113000805	392245	392393	02/24/2016	24 MONTHS	02/24/2018
BEE665000388	BEE	BEN653000917	BEN653000918	747779	749718	02/25/2015	24 MONTHS	02/25/2017
BEE708000288	BEE III	BEN653000920	BEN653000919	965568	965513	02/24/2016	24 MONTHS	02/24/2018
HHS568000846	SPEED GUN	HANDHELD	N/A	966359	070908	07/27/2015	24 MONTHS	07/27/2017
HHS568000846	Z-16	HANDHELD	N/A	298375	N/A	02/25/2015	24 MONTHS	02/25/2017
HHS568000847	Z-16	HANDHELD	N/A	070704	N/A	02/25/2015	24 MONTHS	02/25/2017
PYT646000033	PYTHON II	PYT315004688	BEE 113001808	263407	204532	02/24/2016	24 MONTHS	02/24/2018
PYT646001907	PYTHON	PYT315008028	PYT315008029	55522	51534	02/24/2016	24 MONTHS	02/24/2018
PYT646003677	PYTHON II	PYT315011083	PYT315017411	298415	314654	02/25/2015	24 MONTHS	02/25/2017
PYT646007251	PYTHON	PYT315017405	PYT315017404	413690	413542	02/24/2016	24 MONTHS	02/24/2018
PYT646007252	PYTHON	PYT315017407	PYT315017408	413618	413531	06/24/2015	24 MONTHS	06/24/2017
PYT646007253	PYTHON	PYT315017408	PYT315017409	44010	854609	02/24/2016	24 MONTHS	02/24/2018
PYT646007255	PYTHON	PYT315017412	PYT315017413	413620	413543	06/24/2015	24 MONTHS	06/24/2017
PYT646007256	PYTHON	PYT315017415	PYT315017414	413615	413528	02/24/2016	24 MONTHS	02/24/2018
PYT846003010	PYTHON III	PYT831003433	PYT865003837	969246	969129	04/14/2018	24 MONTHS	04/14/2018
PYT846003011	PYTHON III	PYT855003888	PYT831003434	276713	276256	02/25/2015	24 MONTHS	02/25/2017
PYT846003458	PYTHON III	PYT831004079	PYT855004541	077805	077831	02/24/2016	24 MONTHS	02/24/2018
PYT846003460	PYTHON III	PYT831004081	N/A	N/A	N/A	02/24/2016	24 MONTHS	02/24/2018
PYT846005439	PYTHON II	PYT831008126	PYT831008126	490653	490701	05/13/2015	24 MONTHS	05/13/2017
PYT846005440	PYTHON II	PYT831008127	PYT831008128	490725	490880	05/13/2015	24 MONTHS	05/13/2017
PYT846005441	PYTHON II	PYT831008131	PYT831008132	490706	490714	05/13/2015	24 MONTHS	05/13/2017
PYT846005442	PYTHON II	PYT831008129	PYT831008130	490733	490715	05/13/2015	24 MONTHS	05/13/2017
PYT846005443	PYTHON II	PYT831008133	PYT831008134	490711	490742	05/13/2015	24 MONTHS	05/13/2017

State of Washington

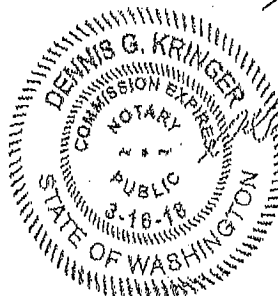
County of King

Signed or attested before me on

12/29/16 by Charles N. Brown

I have satisfactory evidence that the person described in this document:

(a) is personally known to me; OR (b) is identified upon oath or affirmation of credible witness personally known to me; OR (c) is identified on the basis of identification documents.



Dennis G. Kringer
Notary Public in and for the State of Washington,
Residing in Bellevue, WA
My appointment expires March 16, 2018

Certified by: Charles N. Brown
Place: Redmond, WA



Cascade Engineering Services, Inc.

12026 115th Ave. NE, Suite 102, Kirkland, WA 98034
T.425.895.8617, F.425.702.9358



**CERTIFICATION CONCERNING DESIGN AND CONSTRUCTION OF
ELECTRONIC SPEED MEASURING DEVICES**

IRLJ RULE 6.6 EFFECTIVE 1/3/2006

FFB 16 2010

I, Gregory E Olsen, do certify under penalty of perjury as follows:

MUNICIPAL COURT

I am employed with Cascade Engineering Services, Inc. (CES) Metrology and Electronics Repair Services, as a Senior Metrology Technician. I have been employed in such a capacity since 2014. Part of my duties includes supervising the maintenance and repair of all electronic and laser speed measuring devices (SMD's) used by LAKEWOOD POLICE DEPARTMENT.

All SMD's currently used by LAKEWOOD POLICE DEPARTMENT are listed in Exhibit "A".

I maintain the following qualifications with respect to SMD(s): Nine years military experience in electronics, which included the repair and calibration of airborne and ground radar systems. I have over three years of experience in the repair and calibration of Doppler and Lidar SMD's. I have successfully completed courses in the repair and calibration of measuring instruments. I am experienced and competent in the principles and fundamental requirements of calibration from DC to Microwave frequencies.

The CES laboratory maintains manuals for all of the SMD's listed in Exhibit "A". I am personally familiar with those manuals and how each of the SMD's are designed and operated. On the date indicated in Exhibit "A" testing of the SMD's was performed using CES procedures under the direction of an authorized SMD expert. The results were evaluated and certified to meet or exceed existing performance standards and entered into the CES certification management database. CES laboratory maintains a testing and certification program that requires each SMD to be tested and certified for accuracy at least once every two years.

The CES laboratory tests all Doppler SMD's used by LAKEWOOD POLICE DEPARTMENT, as recommended by the manufacturer, as follows: The Vocar HR, handheld Radar certification system is used to simulate speeds at 5 mph increments from 20 mph to 140 mph to verify accuracy in stationary and moving mode. Measurements are taken of the SMD transmit frequency, antenna/receiver sensitivity and any accompanying tuning forks are also tested for accuracy. All other operational functions of the SMD system are then tested for proper performance.

The Laser SMD's transmit a series of highly focused light wave pulses each time the trigger is pulled and utilizes two laws of physics; time and distance (i.e. 3.5 feet in diameter at 1000 feet). Since the speed of light is a known fixed value, the distance of the target is determined by calculating how long it takes for the signal to travel to the target and back. This series of measurements allows the SMD to calculate the speed of the target by measuring the distance the signal took to travel to the target and back. The displayed speed is accurate to within plus (+) or minus (-) one (1) mile per hour.

The CES laboratory tests all Laser / Lidar SMD(s) used by LAKEWOOD POLICE DEPARTMENT, as recommended by the manufacturer, as follows: The Laser Speed Measurement Simulator (LSMS) is utilized to simulate a moving target. This is accomplished by detecting the optical output pulses of the laser device and generating artificial return pulses. Different speed values and ranges are simulated by varying the time delays between the input pulses and the return pulses. The LSMS consists of a Digital Delay Generator (DDG), and an optical interface unit. The DDG produces precise time delays. The optical interface unit converts the optical energy of the laser instrument into electrical signals which are supplied to the DDG. The optical interface unit also converts the electrical signals received from the DDG into optical energy which is then transmitted to the Lidar. The Lidar's output power is tested using an Ophir Nova Display, with a PD300-SH power head.

On the date indicated in Exhibit "A", each SMD was tested by a trained technician listed therein and under my direction. All Technicians listed on Exhibit "A" received training in the proper use and operation of SMD test equipment and performance testing procedures used to test Laser and Doppler SMDs. After successfully completing training the technician is certified by myself and receives authorization allowing them to enter the results from the tests into the certificate management database. Individual Performance and Certification tests are entered into the certificate management database under the penalty of perjury by entering an authorized user id and password to authenticate it.

Exhibit "A"

This agency, LAKEWOOD POLICE DEPARTMENT currently utilizes the following Laser SMD(s):

LASER TECHNOLOGY INC manufacturer's the following SMD(s):

ID/Serial Number	Model Number	Antenna 1 S/N	Antenna 2 S/N	T.F. 1 S/N	T.F. 2 S/N	Cal. Date	Cal. Interval	Due Date	Technician
TJ000427	LTI 20-20	N/A	N/A	N/A	N/A	01/31/2018	12 MONTHS	01/31/2019	NICOLAS T MOWRY
TJ000801	LTI 20-20 TRUSPEEN/A	N/A	N/A	N/A	N/A	01/31/2018	12 MONTHS	01/31/2019	NICOLAS T MOWRY
TJ000798	LTI 20-20 TRUSPEEN/A	N/A	N/A	N/A	N/A	01/31/2018	12 MONTHS	01/31/2019	NICOLAS T MOWRY
TJ000799	LTI 20-20 TRUSPEEN/A	N/A	N/A	N/A	N/A	01/31/2018	12 MONTHS	01/31/2019	NICOLAS T MOWRY
TJ000195	LTI 20/20 TRU SPEEN/A	N/A	N/A	N/A	N/A	02/15/2018	12 MONTHS	02/15/2019	NICOLAS T MOWRY
TJ000191	LTI 20/20 TRU SPEEN/A	N/A	N/A	N/A	N/A	01/31/2018	12 MONTHS	01/31/2019	NICOLAS T MOWRY
TJ003456	LTI 20/20 TRU SPEEN/A	N/A	N/A	N/A	N/A	01/31/2018	12 MONTHS	01/31/2019	NICOLAS T MOWRY
TJ003455	LTI 20/20 TRU SPEEN/A	N/A	N/A	N/A	N/A	02/15/2018	12 MONTHS	02/15/2019	NICOLAS T MOWRY
TJ003457	LTI 20/20 TRU SPEEN/A	N/A	N/A	N/A	N/A	01/31/2018	12 MONTHS	01/31/2019	NICOLAS T MOWRY
TJ000192	LTI 20/20 TRU SPEEN/A	N/A	N/A	N/A	N/A	01/31/2018	12 MONTHS	01/31/2019	NICOLAS T MOWRY

LASER TECHNOLOGY INC. manufacturer's the following SMD(s):

ID/Serial Number	Model Number	Antenna 1 S/N	Antenna 2 S/N	T.F. 1 S/N	T.F. 2 S/N	Cal. Date	Cal. Interval	Due Date	Technician
TJ000813	LTI 20-20 TRUSPEEN/A	N/A	N/A	N/A	N/A	01/31/2018	12 MONTHS	01/31/2019	NICOLAS T MOWRY

This agency, LAKEWOOD POLICE DEPARTMENT currently utilizes the following Doppler SMD(s):

APPLIED CONCEPTS manufacturer's the following SMD(s):

I.D./Serial Number	Model Number	Antenna 1 S/N	Antenna 2 S/N	T.F. 1 S/N	T.F. 2 S/N	Cal. Date	Cal. Interval	Due Date	Technician
DB007/07	STALKER DSR 2X	KC120808	KR034424	FA241573	FB348889	02/15/2018	24 MONTHS	02/15/2020	NICOLAS T MOWRY
DP14191	STALKER DSR 2X	KC042327	KR014273	FA185376	FB286536	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY
DP013353	STALKER DSR 2X	KC039059	KR013231	FA182916	FB282408	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY
DP14228	STALKER DSR 2X	KR014333	KC042254	FA185378	FB286538	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY
DP14215	STALKER DSR 2X	KR014285	KC042312	185380	286539	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
DB007616	STALKER DSR 2X	KC120824	KR034427	241312	348888	01/25/2017	24 MONTHS	01/25/2019	CHARLIE N BROWN
DP14218	STALKER DSR 2X	KR014335	KC042330	185379	286540	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
DB007711	STALKER DSR 2X	KC120822	KR034416	241374	348890	01/25/2017	24 MONTHS	01/25/2019	CHARLIE N BROWN
DB007727	STALKER DSR 2X	KC123399	KR034420	241577	348891	01/25/2017	24 MONTHS	01/25/2019	CHARLIE N BROWN
DC118305	STALKER DUAL SL	KC076550	KC076563	FA212572	FB315145	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
DC099552	STALKER DUAL SL	KA073616	KA073625	168766	268481	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
DC110304	STALKER DUAL SL	KC076547	KC076551	FA212570	FB315146	06/08/2017	24 MONTHS	06/08/2019	GREGORY E OLSEN

APPLIED CONCEPTS INC. manufacturer's the following SMD(s):

I.D./Serial Number	Model Number	Antenna 1 S/N	Antenna 2 S/N	T.F. 1 S/N	T.F. 2 S/N	Cal. Date	Cal. Interval	Due Date	Technician
DP14222	STALKER DSR 2X	KC042309	KR014266	185377	286537	03/08/2016	24 MONTHS	03/08/2018	CHARLIE N BROWN

DECATUR manufacturer's the following SMD(s):

I.D./Serial Number	Model Number	Antenna 1 S/N	Antenna 2 S/N	T.F. 1 S/N	T.F. 2 S/N	Cal. Date	Cal. Interval	Due Date	Technician
GHD-04828	GENESIS HANDHELPHANDHELD	N/A	N/A	6728	N/A	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
GHD-04683	GENESIS HANDHELPHANDHELD	N/A	N/A	156143	156034	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
GHD-04866	GENESIS HANDHELPHANDHELD	N/A	N/A	969092	969130	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
GHD-04737	GENESIS HANDHELPHANDHELD	N/A	N/A	070682	N/A	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
GHD-04897	GENESIS HANDHELPHANDHELD	N/A	N/A	156170	156031	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
GHD-04864	GENESIS HANDHELPHANDHELD	N/A	N/A	156111	155998	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
GHD-04684	GENESIS HANDHELPHANDHELD	N/A	N/A	156169	156049	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
GHD-04891	GENESIS HANDHELPHANDHELD	N/A	N/A	24415	N/A	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
GHD-04731	GENESIS HANDHELPHANDHELD	N/A	N/A	156162	N/A	02/15/2017	24 MONTHS	02/15/2019	CHARLIE N BROWN
GHD-04831	GENESIS HANDHELPHANDHELD	N/A	N/A	156072	156002	02/15/2017	24 MONTHS	02/15/2019	CHARLIE N BROWN
GHD-04824	GENESIS HANDHELPHANDHELD	N/A	N/A	156123	170699	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY
GHD-04754	GENESIS HANDHELPHANDHELD	N/A	N/A	156997	N/A	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY
GHD-04890	GENESIS HANDHELPHANDHELD	N/A	N/A	47291	N/A	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY
GHD-04826	GENESIS HANDHELPHANDHELD	N/A	N/A	55528	51531	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY
GHD-04811	GENESIS HANDHELPHANDHELD	N/A	N/A	156087	156047	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY

MPH INDUSTRIES manufacturer's the following SMD(s):

I.D./Serial Number	Model Number	Antenna 1 S/N	Antenna 2 S/N	T.F. 1 S/N	T.F. 2 S/N	Cal. Date	Cal. Interval	Due Date	Technician
BEE665000388	BEE	BEN653000917	BEN653000918	747779	749718	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
BEE6640008617	BEE 36	BEE113001613	BEE113000605	392243	392393	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY
930002315	BEE III	BEN653013012	BEN653013013	965532	965523	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY
930002311	BEE III	BEN65303004	BEN65303005	298523	298529	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY
930002313	BEE III	BEN653013004	BEN653013005	965581	965546	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY
BEE706000288	BEE III	BEN653000920	BEN653000919	965568	965513	02/24/2016	24 MONTHS	02/24/2018	CHARLIE N BROWN
664008614	BEE III	BEN653021584	BEN653021585	392233	392408	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
BEE664000372	BEE III	BEN653000920	BEN653000919	298611	298681	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY
664008616	BEE III	BEN653021589	BEN653021588	392248	392252	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY
PYT546007256	PYTHON	PYT135017415	PYT135017414	413615	413528	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY
PYT546007252	PYTHON	PYT135017407	PYT135017406	413618	413531	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
PYT546001907	PYTHON	PYT315008028	PYT315008029	55522	51534	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
PYT546007255	PYTHON	PYT135017412	PYT135017413	413620	413543	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
PYT546007254	PYTHON	PYT135017410	PYT135017411	286377	286435	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
PYT546007251	PYTHON	PYT135017405	PYT135017404	413690	413542	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY
PYT546007253	PYTHON	PYT135017408	PYT135017409	44010	854609	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY
PYT546000033	PYTHON II	PYT135004668	BEE 113001606	263407	204532	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY
PYT846005443	PYTHON II	PYT831008133	PYT831008134	490711	490742	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
PYT846005440	PYTHON II	PYT831008127	PYT831008128	490725	490680	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
PYT546007250	PYTHON II	PYT135017402	PYT135017403	967227	965901	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
PYT646003677	PYTHON II	PYT135011063	PYT135017411	298415	314654	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
PYT846005442	PYTHON II	PYT831008129	PYT831008130	490733	490715	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
PYT846005441	PYTHON II	PYT831008131	PYT831008132	490706	490714	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
PYT846005439	PYTHON II	PYT831008125	PYT831008126	490653	490701	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY
PYT846003641	PYTHON III	PYT831004453	PYT855004836	077880	077834	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
PYT846003010	PYTHON III	PYT831003433	PYT855003837	390467	390461	05/19/2017	24 MONTHS	05/19/2019	CHARLIE N BROWN
PYT846003459	PYTHON III	PYT381004080	PYT855004542	077808	077822	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
PYT846003460	PYTHON III	PYT831004081	PYT855004543	N/A	N/A	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY
PYT846003458	PYTHON III	PYT831004079	PYT855004541	077805	077831	02/24/2016	24 MONTHS	02/24/2018	CHARLIE N BROWN
PYT846003011	PYTHON III	PYT855003888	PYT831003434	276713	276256	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY
HHM556000951	SPEED GUN	HANDHELD	N/A	966359	070908	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
HHM556000952	SPEED GUN	HANDHELD	N/A	964957	854604	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
5246	VINDICATOR	HANDHELD	N/A	6886	N/A	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
5240	VINDICATOR	HANDHELD	N/A	298388	N/A	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
5239	VINDICATOR	HANDHELD	N/A	1672	N/A	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
5245	VINDICATOR	N/A	N/A	6887	N/A	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
5250	VINDICATOR	N/A	N/A	15227	N/A	02/15/2017	24 MONTHS	02/15/2019	CHARLIE N BROWN

MPH INDUSTRIES manufacturer's the following SMD(s):

I.D./Serial Number	Model Number	Antenna 1 S/N	Antenna 2 S/N	T.F. 1 S/N	T.F. 2 S/N	Cal. Date	Cal. Interval	Due Date	Technician
5238	VINDICATOR	N/A	N/A	72362	N/A	02/15/2017	24 MONTHS	02/15/2019	CHARLIE N BROWN
HHS568000846	Z-15	HANDHELD	N/A	298375	N/A	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
HHS568000847	Z-15	HANDHELD	N/A	070704	N/A	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN

Based upon my education, training, and experience and my knowledge of the SMD's listed above, it is my opinion that each of these electronic pieces of equipment is so designed and constructed as to accurately employ the Doppler effect in such a manner that it will give accurate measurements of the speed of motor vehicles when properly calibrated and operated by a trained operator or, in the case of the laser SMDs, each of these pieces of equipment is so designed and constructed as to accurately employ measurement techniques based on the velocity of light in such a manner that it will give accurate measurements of the speed of motor vehicles when properly calibrated and operated by a trained operator.

Exhibit "A" derives information from the certificate management database. See Exhibit "A" for details about individual SMD certifications.

State of Washington

County of King

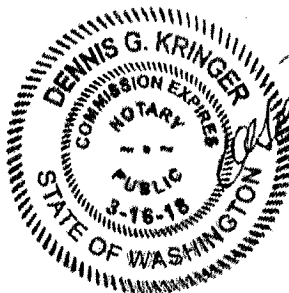
Signed or attested before me on

2-15-18

by Gregory E Olsen

I have satisfactory evidence that the person described in this document:

(a) is personally known to me; OR (b) is identified upon oath or affirmation of credible witness personally known to me; OR (c) is identified on the basis of identification documents.



Dennis G. Kringer
Dennis G. Kringer
Notary Public in and for the State of Washington,
Bellevue
My appointment expires March 16th, 2018

Gregory E Olsen
Certified by: Gregory E Olsen
Place: Redmond, WA



Cascade Engineering Services, Inc.

12026 115th Ave. NE, Suite 102, Kirkland, WA 98034
T.425.895.8617, F.425.702.9358



**CERTIFICATION CONCERNING DESIGN AND CONSTRUCTION OF
ELECTRONIC SPEED MEASURING DEVICES**

IRLJ RULE 6.6 EFFECTIVE 1/3/2006

I, Nicolas T. Mowry, do certify under penalty of perjury as follows:

I am employed with Cascade Engineering Services, Inc. (CES) Metrology and Electronics Repair Services, as a Metrology Technician. I have been employed in such a capacity since 2016. Part of my duties includes supervising the maintenance and repair of all electronic and laser speed measuring devices (SMD's) used by LAKEWOOD POLICE DEPARTMENT.

All SMD's currently used by LAKEWOOD POLICE DEPARTMENT are listed in Exhibit "A".

I maintain the following qualifications with respect to SMD(s): I have commercial experience in electronics and in the repair and calibration of Doppler and Lidar SMD's since the beginning of 2016. I have a Bachelors of Science degree in physics from the University of Washington. I am experienced and competent in the principles and fundamental requirements of calibration from DC to Microwave frequencies.

The CES laboratory maintains manuals for all of the SMD's listed in Exhibit "A". I am personally familiar with those manuals and how each of the SMD's are designed and operated. On the date indicated in Exhibit "A" testing of the SMD's was performed using CES procedures under the direction of an authorized SMD expert. The results were evaluated and certified to meet or exceed existing performance standards and entered into the CES certification management database. CES laboratory maintains a testing and certification program that requires each SMD to be tested and certified for accuracy at least once every two years.

The CES laboratory tests all Doppler SMD's used by LAKEWOOD POLICE DEPARTMENT, as recommended by the manufacturer, as follows: The Vocar HR, handheld Radar certification system is used to simulate speeds at 5 mph increments from 20 mph to 140 mph to verify accuracy in stationary and moving mode. Measurements are taken of the SMD transmit frequency, antenna/receiver sensitivity and any accompanying tuning forks are also tested for accuracy. All other operational functions of the SMD system are then tested for proper performance.

The Laser SMD's transmit a series of highly focused light wave pulses each time the trigger is pulled and utilizes two laws of physics; time and distance (i.e. 3.5 feet in diameter at 1000 feet). Since the speed of light is a known fixed value, the distance of the target is determined by calculating how long it takes for the signal to travel to the target and back. This series of measurements allows the SMD to calculate the speed of the target by measuring the distance the signal took to travel to the target and back. The displayed speed is accurate to within plus (+) or minus (-) one (1) mile per hour.

The CES laboratory tests all Laser / Lidar SMD(s) used by LAKEWOOD POLICE DEPARTMENT, as recommended by the manufacturer, as follows: The Laser Speed Measurement Simulator (LSMS) is utilized to simulate a moving target. This is accomplished by detecting the optical output pulses of the laser device and generating artificial return pulses. Different speed values and ranges are simulated by varying the time delays between the input pulses and the return pulses. The LSMS consists of a Digital Delay Generator (DDG), and an optical interface unit. The DDG produces precise time delays. The optical interface unit converts the optical energy of the laser instrument into electrical signals which are supplied to the DDG. The optical interface unit also converts the electrical signals received from the DDG into optical energy which is then transmitted to the Lidar. The Lidar's output power is tested using an Ophir Nova Display, with a PD300-SH power head.

On the date indicated in Exhibit "A", each SMD was tested by a trained technician listed therein and under my direction. All Technicians listed on Exhibit "A" received training in the proper use and operation of SMD test equipment and performance testing procedures used to test Laser and Doppler SMDs. After successfully completing training the technician is certified by myself and receives authorization allowing them to enter the results from the tests into the certificate management database. Individual Performance and Certification tests are entered into the certificate management database under the penalty of perjury by entering an authorized user id and password to authenticate it.

Exhibit "A"

This agency, LAKEWOOD POLICE DEPARTMENT currently utilizes the following Laser SMD(s):

LASER TECHNOLOGY INC manufacturer's the following SMD(s):

I.D./Serial Number	Model Number	Antenna 1 S/N	Antenna 2 S/N	T.F. 1 S/N	T.F. 2 S/N	Cal. Date	Cal. Interval	Due Date	Technician
TJ000427	LTI 20-20	N/A	N/A	N/A	N/A	01/31/2018	12 MONTHS	01/31/2019	NICOLAS T MOWRY
TJ000798	LTI 20-20 TRUSPEEN/A	N/A	N/A	N/A	N/A	01/31/2018	12 MONTHS	01/31/2019	NICOLAS T MOWRY
TJ000799	LTI 20-20 TRUSPEEN/A	N/A	N/A	N/A	N/A	01/31/2018	12 MONTHS	01/31/2019	NICOLAS T MOWRY
TJ000801	LTI 20-20 TRUSPEEN/A	N/A	N/A	N/A	N/A	01/31/2018	12 MONTHS	01/31/2019	NICOLAS T MOWRY
TJ003455	LTI 20/20 TRU SPEEN/A	N/A	N/A	N/A	N/A	02/15/2018	12 MONTHS	02/15/2019	NICOLAS T MOWRY
TJ003456	LTI 20/20 TRU SPEEN/A	N/A	N/A	N/A	N/A	01/31/2018	12 MONTHS	01/31/2019	NICOLAS T MOWRY
TJ003457	LTI 20/20 TRU SPEEN/A	N/A	N/A	N/A	N/A	01/31/2018	12 MONTHS	01/31/2019	NICOLAS T MOWRY
TJ000191	LTI 20/20 TRU SPEEN/A	N/A	N/A	N/A	N/A	01/31/2018	12 MONTHS	01/31/2019	NICOLAS T MOWRY
TJ000192	LTI 20/20 TRU SPEEN/A	N/A	N/A	N/A	N/A	01/31/2018	12 MONTHS	01/31/2019	NICOLAS T MOWRY
TJ000194	LTI 20/20 TRU SPEEN/A	N/A	N/A	N/A	N/A	08/27/2018	12 MONTHS	08/27/2019	NICOLAS T MOWRY
TJ000195	LTI 20/20 TRU SPEEN/A	N/A	N/A	N/A	N/A	02/15/2018	12 MONTHS	02/15/2019	NICOLAS T MOWRY

LASER TECHNOLOGY INC. manufacturer's the following SMD(s):

I.D./Serial Number	Model Number	Antenna 1 S/N	Antenna 2 S/N	T.F. 1 S/N	T.F. 2 S/N	Cal. Date	Cal. Interval	Due Date	Technician
TJ000813	LTI 20-20 TRUSPEEN/A	N/A	N/A	N/A	N/A	01/31/2018	12 MONTHS	01/31/2019	NICOLAS T MOWRY

This agency, LAKEWOOD POLICE DEPARTMENT currently utilizes the following Doppler SMD(s):

APPLIED CONCEPTS manufacturer's the following SMD(s):

I.D./Serial Number	Model Number	Antenna 1 S/N	Antenna 2 S/N	T.F. 1 S/N	T.F. 2 S/N	Cal. Date	Cal. Interval	Due Date	Technician
DP013353	STALKER DSR 2X	KC039059	KR013231	FA182916	FB282408	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY
DP14191	STALKER DSR 2X	KC042327	KR014273	FA185376	FB286536	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY
DP14215	STALKER DSR 2X	KR014265	KC042312	185380	286539	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
DP14218	STALKER DSR 2X	KR014335	KC042330	185379	286540	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
DB007616	STALKER DSR 2X	KC120824	KR034427	241372	348888	01/25/2017	24 MONTHS	01/25/2019	CHARLIE N BROWN
DB007707	STALKER DSR 2X	KC120808	KR034424	FA241573	FB348889	02/15/2018	24 MONTHS	02/15/2020	NICOLAS T MOWRY
DB007711	STALKER DSR 2X	KC120822	KR034416	241374	348890	01/25/2017	24 MONTHS	01/25/2019	CHARLIE N BROWN
DB007727	STALKER DSR 2X	KC123399	KR034420	241577	348891	01/25/2017	24 MONTHS	01/25/2019	CHARLIE N BROWN
DP14228	STALKER DSR 2X	KR014333	KC042254	FA185378	FB286538	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY
DC099952	STALKER DUAL SL	KA073616	KA073625	168766	268481	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
DC110304	STALKER DUAL SL	KC076547	KC076551	FA212570	FB315146	06/08/2017	24 MONTHS	06/08/2019	GREGORY E OLSEN
DC110305	STALKER DUAL SL	KC076550	KC076563	FA212572	FB315145	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN

APPLIED CONCEPTS INC. manufacturer's the following SMD(s):

I.D./Serial Number	Model Number	Antenna 1 S/N	Antenna 2 S/N	T.F. 1 S/N	T.F. 2 S/N	Cal. Date	Cal. Interval	Due Date	Technician
DP14222	STALKER DSR 2X	KC042309	KR014266	FA185377	FB286537	02/21/2018	24 MONTHS	02/21/2020	NICOLAS T MOWRY

DECATUR manufacturer's the following SMD(s):

I.D./Serial Number	Model Number	Antenna 1 S/N	Antenna 2 S/N	T.F. 1 S/N	T.F. 2 S/N	Cal. Date	Cal. Interval	Due Date	Technician
GHD-04683	GENESIS HANDHELHANDHELD	N/A	N/A	156143	156034	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
GHD-04684	GENESIS HANDHELHANDHELD	N/A	N/A	156169	156049	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
GHD-04731	GENESIS HANDHELHANDHELD	N/A	N/A	156162	N/A	02/15/2017	24 MONTHS	02/15/2019	CHARLIE N BROWN
GHD-04737	GENESIS HANDHELHANDHELD	N/A	N/A	070682	N/A	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
GHD-04754	GENESIS HANDHELHANDHELD	N/A	N/A	155997	N/A	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY
GHD-04811	GENESIS HANDHELHANDHELD	N/A	N/A	156087	156047	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY
GHD-04824	GENESIS HANDHELHANDHELD	N/A	N/A	156123	170699	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY
GHD-04826	GENESIS HANDHELHANDHELD	N/A	N/A	55528	51531	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY
GHD-04828	GENESIS HANDHELHANDHELD	N/A	N/A	6728	N/A	08/27/2018	24 MONTHS	08/27/2020	NICOLAS T MOWRY
GHD-04829	GENESIS HANDHELHANDHELD	N/A	N/A	155974	N/A	03/06/2018	24 MONTHS	03/06/2020	NICOLAS T MOWRY
GHD-04831	GENESIS HANDHELHANDHELD	N/A	N/A	156072	156002	02/15/2017	24 MONTHS	02/15/2019	CHARLIE N BROWN
GHD-04854	GENESIS HANDHELHANDHELD	N/A	N/A	156111	155998	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
GHD-04866	GENESIS HANDHELHANDHELD	N/A	N/A	969092	969130	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
GHD-04890	GENESIS HANDHELHANDHELD	N/A	N/A	47291	N/A	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY
GHD-04891	GENESIS HANDHELHANDHELD	N/A	N/A	24415	N/A	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
GHD-04897	GENESIS HANDHELHANDHELD	N/A	N/A	156170	156031	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN

MPH INDUSTRIES manufacturer's the following SMD(s):

I.D./Serial Number	Model Number	Antenna 1 S/N	Antenna 2 S/N	T.F.'1 S/N	T.F. 2 S/N	Cal. Date	Cal. Interval	Due Date	Technician
BEE66000388	BEE	BEN653000917	BEN653000918	747779	749718	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
BEE664008617	BEE 36	BEE113001613	BEE113000605	392243	392393	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY
664008614	BEE III	BEN653021584	BEN653021585	392233	392408	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
664008615/BEE664008615	BEE III	BEN653021587	BEN653021586	392276	392395	05/24/2018	24 MONTHS	05/24/2020	NICOLAS T MOWRY
664008616	BEE III	BEN653021589	BEN653021588	392248	392252	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY
930002311	BEE III	BEN653030004	BEN653030005	298523	298529	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY
930002313	BEE III	BEN653013004	BEN653013005	965581	965546	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY
930002315	BEE III	BEN653013012	BEN653013013	965532	965523	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY
BEE664000372	BEE III	BEN653000920	BEN653000919	298611	298681	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY
PYT546007251	PYTHON	PYT315017405	PYT315017404	413690	413542	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY
PYT546007252	PYTHON	PYT315017407	PYT315017406	413618	413531	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
PYT546007253	PYTHON	PYT315017408	PYT315017409	44010	854609	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY
PYT546007254	PYTHON	PYT315017410	PYT315017411	286377	286435	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
PYT546007255	PYTHON	PYT315017412	PYT315017413	413620	413543	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
PYT546007256	PYTHON	PYT315017415	PYT315017414	413615	413528	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY
PYT546001907	PYTHON	PYT315008028	PYT315008029	55522	51534	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
PYT546003677	PYTHON II	PYT315011063	PYT315017411	298415	314654	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
PYT546007250	PYTHON II	PYT315017402	PYT315017403	967227	965901	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
PYT546000033	PYTHON II	PYT315004668	BEE 113001606	263407	204532	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY
PYT846005439	PYTHON II	PYT831008125	PYT831008126	490653	490701	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY
PYT846005440	PYTHON II	PYT831008127	PYT831008128	490725	490680	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
PYT846005441	PYTHON II	PYT831008131	PYT831008132	490706	490714	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
PYT846005442	PYTHON II	PYT831008129	PYT831008130	490733	490715	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
PYT846005443	PYTHON II	PYT831008133	PYT831008134	490711	490742	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
PYT846003010	PYTHON III	PYT831003433	PYT855003837	390467	390461	05/19/2017	24 MONTHS	05/19/2019	CHARLIE N BROWN
PYT846003011	PYTHON III	PYT855003888	PYT831003434	276713	276256	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY
PYT846003459	PYTHON III	PYT381004080	PYT855004542	077808	077822	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
PYT846003460	PYTHON III	PYT831004081	PYT855004543	N/A	N/A	01/31/2018	24 MONTHS	01/31/2020	NICOLAS T MOWRY
PYT846003644	PYTHON III	PYT831004153	PYT855004836	077880	077834	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
HIM556000951	SPEED GUN	HANDHELD	N/A	966359	070908	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
HIM556000952	SPEED GUN	HANDHELD	N/A	964957	854604	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
5238	VINDICATOR	N/A	N/A	72362	N/A	02/15/2017	24 MONTHS	02/15/2019	CHARLIE N BROWN
5239	VINDICATOR	HANDHELD	N/A	1672	N/A	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
5240	VINDICATOR	HANDHELD	N/A	298388	N/A	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
5245	VINDICATOR	N/A	N/A	6887	N/A	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
5246	VINDICATOR	HANDHELD	N/A	6886	N/A	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
5250	VINDICATOR	N/A	N/A	15227	N/A	02/15/2017	24 MONTHS	02/15/2019	CHARLIE N BROWN

MPH INDUSTRIES manufacturer's the following SMD(s):

I.D./Serial Number	Model Number	Antenna 1 S/N	Antenna 2 S/N	T.F. 1 S/N	T.F. 2 S/N	Cal. Date	Cal. Interval	Due Date	Technician
5394	VINDICATOR	HANDHELD	N/A	156113	N/A	04/18/2018	24 MONTHS	04/18/2020	NICOLAS T MOWRY
HHS568000846	Z-15	HANDHELD	N/A	298375	N/A	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN
HHS568000847	Z-15	HANDHELD	N/A	070704	N/A	02/01/2017	24 MONTHS	02/01/2019	CHARLIE N BROWN

Based upon my education, training, and experience and my knowledge of the SMD's listed above, it is my opinion that each of these electronic pieces of equipment is so designed and constructed as to accurately employ the Doppler effect in such a manner that it will give accurate measurements of the speed of motor vehicles when properly calibrated and operated by a trained operator or, in the case of the laser SMDs, each of these pieces of equipment is so designed and constructed as to accurately employ measurement techniques based on the velocity of light in such a manner that it will give accurate measurements of the speed of motor vehicles when properly calibrated and operated by a trained operator.

Exhibit "A" derives information from the certificate management database. See Exhibit "A" for details about individual SMD certifications.

State of Washington

County of King

Signed or attested before me on

9-14-18

by Nicolas T. Mowry

I have satisfactory evidence that the person described in this document:

(a) is personally known to me; OR (b) is identified upon oath or affirmation of credible witness personally known to me; OR (c) is identified on the basis of identification documents.

William Quoc Ang

William Quoc Ang
Notary Public in and for the State of Washington,
Residing in Seattle, WA
My appointment expires January 29, 2022

Nicolas T. Mowry

Certified by: Nicolas T. Mowry
Place: Redmond, WA

