

	<b>Farran Technology Ltd.,  Unit 1 Airport East Technology Park.  Farmers Cross, Co. Cork.  Ireland.</b>	
Certificate of Calibration <b>Certificate No: FCC 10300</b>		
<b>Model#: FS-Z60</b>	<b>S/N: 100147</b>	<b>Cal Freq: 40-60GHz</b>
<p><b>Calibration Date : 30/11/2017</b>  <b>As shipped Condition: On completion of testing, measurement points within specification.</b>  <b>Comments: Unit calibrated to spec, results on file.</b>  <b>Measurement Uncertainty: +/-1.5dB.</b>  <b>Customer : Rohde &amp; Schwarz.</b>  <b>Location of Calibration: Farran Technology</b>  <b>Certified By: Michael Crowley    Date 30/11/2017</b></p> <p><b>Signature</b></p> <p><b>Date 30/11/2017</b></p> <p><b>This calibration certificate documents, that the named item is tested and measured against defined specifications.</b>  <b>Measurement results are located usually in the corresponding interval with a probability of approx 95% (coverage factor k=2).</b>  <b>Calibration is performed with test equipment and standards directly or indirectly traceable by means of approved calibration techniques to the PTB/DKD or other national / international standards, which realize the physical units of measurement according to the International System of Units (SI).</b>  <b>Principals and methods of calibration correspond and are conformant with EN ISO/IEC 17025 and ANSI/NCSL Z540-1-1994. The applied quality system is certified to EN ISO 9001.</b>  <b>This calibration certificate may not be reproduced other than in full. Calibration certificates without signatures are not valid.</b>  <b>The user is obliged to have the object recalibrated at appropriate intervals.</b></p>		

<b>Calibration Procedure No: STP 27</b>				
<b>Calibration Equipment used:</b>				
<b>Description:</b>	<b>Model No:</b>	<b>S/N:</b>	<b>Certificate No.</b>	<b>Cal Due</b>
Agilent Spectrum Analyzer	8563E	3728A07479	1-7002610057-21	July 2019
Agilent Power Meter	E4418A	GB39512672	1-7002610057-17	July 2019
Agilent Power Sensor	8481A	US37293022	1-7002610057-9	July 2019
Agilent Power Sensor	V8486A	MY44420202	437543-1545636-1	Oct 2019
Agilent Power Sensor	Q8486A	3318A01897	1-5446996787-1	Nov 2019
Agilent Synthesized Generator	E8247B	MY43320714	1-7002610057-22	July 2019
Agilent Synthesized Generator	83712B	US37100716	1-7002610057-3	July 2019

## Conversion Loss Data for Harmonic Mixer FS-Z60 (40 .. 60 GHz)

(Order No. 8800000291/53RA/L6)

Revision 1.30

Ser. No. 100147

### Conversion loss data valid for following operating conditions:

IF	741,4 MHz (valid for 404,4 MHz and 729,9 MHz too)
Order of Harmonic	4
LO frequency range	10 to 15GHz +15.5dBm
LO level	nominal
Bias	0 mA

Frequency / GHz	Conversion Loss / dB	Frequency / GHz	Conversion Loss / dB
40.00	-16.36	50.20	-14.92
40.41	-15.72	50.61	-15.55
40.82	-15.10	51.02	-15.50
41.22	-15.61	51.43	-14.95
41.63	-15.73	51.84	-15.28
42.04	-15.68	52.25	-15.97
42.45	-14.99	52.65	-15.72
42.86	-14.82	53.06	-15.38
43.27	-15.66	53.47	-15.68
43.67	-15.77	53.88	-16.10
44.08	-15.17	54.29	-15.96
44.49	-14.81	54.69	-15.58
44.90	-15.33	55.10	-15.39
45.31	-15.50	55.51	-15.37
45.71	-15.19	55.92	-15.03
46.12	-14.81	56.33	-14.92
46.53	-15.31	56.74	-15.21
46.94	-15.87	57.14	-15.46
47.35	-15.84	57.55	-15.37
47.76	-15.75	57.96	-15.74
48.16	-15.53	58.37	-16.43
48.57	-15.78	58.78	-16.79
48.98	-16.26	59.18	-16.41
49.39	-15.79	59.59	-16.07
49.80	-15.34	60.00	-15.38