**EPM-P: E4416/17A Power Meter Firmware Revision Information**

**Firmware Versions A1.03.01 and A2.03.01**

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| **Feature** | **Notes** | **Refer to E4416/17A Power Meter Manual** |
| RS422 Serial Interface | RS422 serial communications interface can be enabled or disabled to reflect the hardware fitted. | Not applicable. Full details are available in Service Notes E4416A-01 and E4417A-01. |

**Firmware Versions A1.04.03 and A2.04.03**

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| **Feature** | **Notes** | **Refer to E4416/17A Power Meter Manual** |
| Graphical TraceCapability With Real-Time Marker Measurements | Power measured using the Peak mode (ie. Normal mode) of E932X sensors can now be viewed as a graphical trace on the EPM-P. The trace display also provides two markers that can be used to define the measurement gate positions. These markers also provide the ability to make the delta time, delta average, delta peak, and delta peak-to-average ratio power measurements. | User Guide: Chapter 3, “Using E-Series E8320 Power Sensors” Trace information was added to this chapter in June 2001. |
| Read/Write Cal Factor Data In E-Series Sensors | New SCPI commands allow the Cal Factor data block in E-series sensors to be extracted or inserted. Note that the Cal Factor data consists of a block of binary data, and an external algorithm must be applied in order to decode/encode the Cal Factor values stored within it. | Programming Guide: Chapter 15, “Service Subsystem” Service commandsSERV:SENS:CALF and SERV:SENS:PCAL were added to this chapter in June 2001. |

**Firmware Versions A1.04.04 and A2.04.04**

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| **Feature** | **Notes** | **Refer to E4416/17A Power Meter Manual** |
| Pulse Measurements Using E-Series Sensors | Corrected a problem that causes the power meter to return anomalous readings. Prior to this update, scenarios existed that could create obvious pulse power measurement errors. Note that this problem did not affect any sensors other than those in the E9300 family. | User Guide: Chapter 4 “Using E-Series E9300 Sensors” |

**Firmware Versions A1.04.07 and A2.04.07**

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| **Feature** | **Notes** | **Refer to E4416/17A Power Meter Manual** |
| Battery Option | Manu structure updated to support the introduction of special option #K01 (the unit can be operated using rechargeable battery pack) | There are no reference in the primary documentation, although an installation guide is provided with all option #K01 |

**Firmware Versions A1.04.08 and A2.04.08**

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| **Feature** | **Notes** | **Refer to E4416/17A Power Meter Manual** |
| Improve the method in sensor detection and eliminate the deadlock. | To resolve deadlock cause by “init:cont 1” and “init:cont 0”. | Not applicable |

**Firmware Versions A1.04.12 and A2.04.12**

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| **Feature** | **Notes** | **Refer to E4416/17A Power Meter Manual** |
| New DSP (Version 01.05) has been included. New LCD driver has been included. | Improve the method in unexpected impulse’s duration and eliminate the deadlock. | Not applicable |

**Firmware Versions A1.05.00 and A2.05.00 release on 1 September 2008**

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| **Feature** | **Notes** | **Refer to E4416/17A Power Meter Manual**  |
| Compatibility with N8481A, N8482A & N8485A power sensors | To enable the power meter to support N8480 thermocouple power sensors | Not applicable |

**Firmware Versions A1.05.01 and A2.05.01 release on 9 June 2009**

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| **Feature** | **Notes** | **Refer to E4416/17A Power Meter Manual**  |
| Compatibility with N8481B/H, N8482B/H, N8487A & N8486AR/Q power sensors | To enable the power meter to support N8480 thermocouple power sensors | Not applicable |

**Firmware Versions A1.05.02 and A2.05.02 release on 4 April 2012**

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| **Feature** | **Notes** | **Refer to E4416/17A Power Meter Manual**  |
| 1. To support new LCD module on EPM-P Power meter.
2. To support special high power sensor (E9321A-H10)
 | New LCD module and new special high power option sensor supportability | Not applicable |

**Firmware Versions A1.05.03 and A2.05.03 release on 28 Nov 2012**

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| **Feature** | **Notes** | **Refer to E4416/17A  Power Meter Manual**  |
| 1. Removed duplication in FDO correction and offset correction
2. Enable zooming on TRACE using SCPI command
3. Enable the functionality of existing SCPI command “STAT:OPER:MEAS?”
4. Improvement on  the method to calculate Cal\_Offset for E9300H and E9301H power sensor
 | FW fixesFW fixesFW fixesFW fixes | Not applicableNot applicableNot applicableNot applicable |

**Firmware Versions A1.05.04 and A2.05.04 release on 30 Oct 2013**

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| **Feature** | **Notes** | **Refer to E4416/17A  Power Meter Manual**  |
| 1. Added checking on trace's sample size to ensure it is not exceed the buffer size
 | New SCPI | Programming Guide |

**Firmware Versions A1.05.05 and A2.05.05 release on 10 Sep 2018**

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| **Feature** | **Notes** | **Refer to E4416/17A Power Meter Manual** |
| 1. Fixed: certain values cannot be set in the Sensor Cal Tables
2. Fixed: STAT:OPER:MEAS:SUMM:COND? is not returning correct value
 | FW fixesFW fixes | Not applicable. Not applicable. |

**Firmware Versions A1.05.06 and A2.05.06 release on 10 Sep 2019**

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| **Feature** | **Notes** | **Refer to E4416/17A Power Meter Manual** |
| 1. Keysight rebrand
2. Added new SCPI commands:

     - SYSTem:PERSona:MANufacturer <string>     - SYSTem:PERSona:MANufacturer?     - SYSTem:PERSona:MANufacturer:DEFault     - SYSTem:PERSona:MANufacturer:DEFault?     - SYSTem:PERSona:MODel <string>     - SYSTem:PERSona:MODel?     - SYSTem:PERSona:MODel:DEFault    - SYSTem:PERSona:MODel:DEFault? |  New SCPI | Not applicable.  |