

## 315 KW ÖRNEK MOTOR RAPORU

## BAKIM SONRASI RAPOR

### GENEL BİLGİLER

İşletme Adı : Koza Altın İşletmeleri  
İşletme Adresi :  
İlgili Kişi :  
Telefon :  
E-Posta :  
Yapılan İşlem : Bakım - Sarım  
Takip No : 201906002

### MOTOR BİLGİLERİ

Marka	: Teco-Westinghouse	Güç (kW)	: 315
Tip	: AEJS WR	Gerilim (V)	: 380 (SEC V : 635)
Seri No	: FC146284T1	Akım (A)	: 558 (SEC A : 293)
Bağlantı	:	Devir (d/d)	: 1480
Verimlilik Sınıfı	:	Frekans (Hz)	: 50
İzolasyon Sınıfı	: F	Cosφ	:



### AÇIKLAMA

Montaj / Demontaj Operatörü	Test ve Kontrol Sorumlusu	Genel Müdür
Hakan ALLAK	Elektrik ve Elektronik Yüksek Mühendisi Coşkun ARSLAN	Numan OMURCA

### MEKANİK ÖLÇÜM

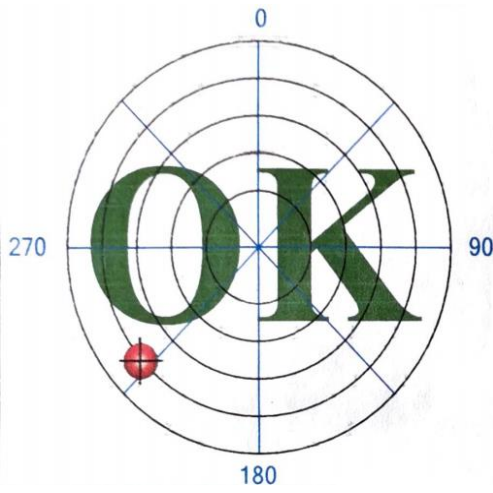
ROTOR	STATOR
Ön Mil Yeri : ✓	Ön Kapak Rulman Yeri : ✓
Arka Mil Yeri : ✓	Arka Kapak Rulman Yeri : ✓
Kaplin Yeri Salgısı : ✓	Ön Yağlama Flanşı : ✓
Ön Rulman : ✓	Arka Yağlama Flanşı : ✓
Arka Rulman : ✓	:

### BALANS RAPORU

Balans Hızı: 1250 d/d  
Düzeltilme Yöntemi: Ekleme

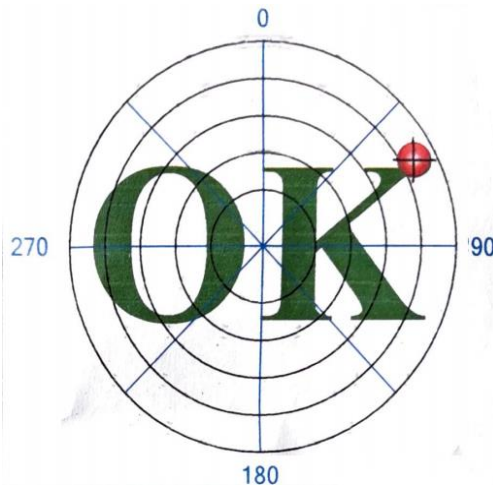
Servis Hızı: 3000 Rpm  
Parça Ağırlığı: 500 Kg

Parça Çapı: 320mm  
Tolerans Sınıfı: ISO 1940 / G2.5



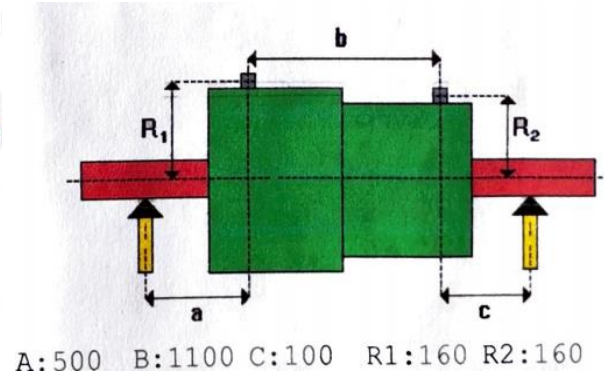
İlk Değerler : 95 gr 239°  
Son Değerler: 0.7 gr 228°

Toll: 795.7499 grmm  
4.97 gr



İlk Değerler : 48 gr 89°  
Son Değerler: 0.11 gr 0°

Toll: 795.7499 grmm  
4.97 gr



### AÇIKLAMA

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Hakan ALLAK	Elektrik ve Elektronik Yüksek Mühendisi Coşkun ARSLAN	Numan OMURCA

## STATOR STATİK TEST

### Resistance / Inductance / Capacitance Results

KOZA ALTIN\TZFC1-STR\09/02/2019 09:10:53 AM

Temperature 77.00 [°F]

#### Resistance

	Lead 1-2	Lead 2-3	Lead 3-1	Unbalance [%]	Average
DC Resistance [mΩ]	6.7682	6.7394	6.7603	0.7	6.7560
Temp Corrected R [mΩ]	6.6690	6.8651	6.6690		6.7344

#### Inductance

Frequency [Hz]	60.0	60.0	60.0		
Impedance [mΩ]	2.037	2.052	2.095	1.6	2.061
Impedance Ang [°]	89.8	89.9	90.0	0.2	89.9
Inductance [mH]	5.403	5.442	5.557	1.6	5.467
Dissipation Factor	0.004	0.003	0.001		
Quality Factor	269.070	387.785	1285.826		

## DC Test Results

KOZA ALTIN\TZFC1-STR\09/02/2019 09:07:09 AM

Temperature [°F] 77.0 Relative Humidity [%] 40.0

### IR Results

Voltage [V]	I [μA]	IR [MΩ]	IR [MΩ] Corrected 40°C (Thermoplastic)
550	0.088	6250	2210

### DA/PI Results

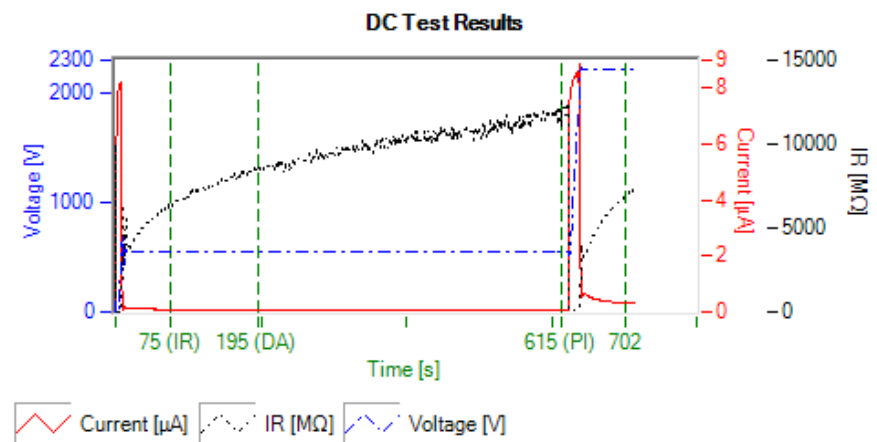
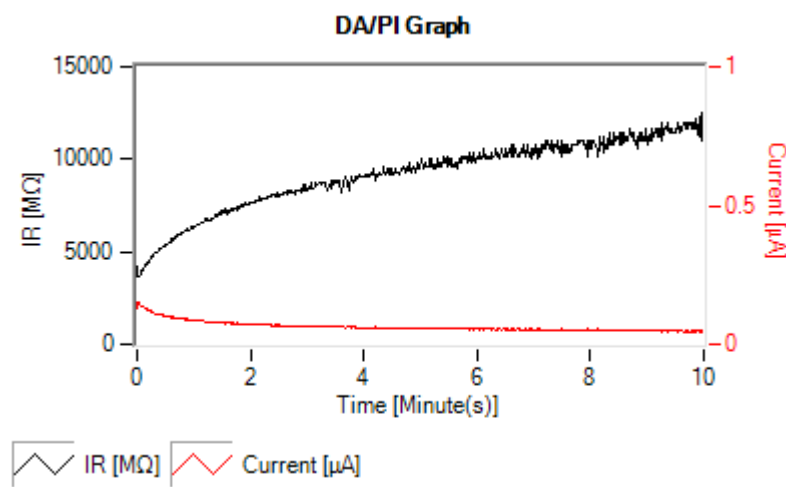
Voltage [V]	DA Ratio	PI Ratio
550	2.1	2.5

### HiPot Result

Voltage [V]	I [μA]	IR [MΩ]	IR [MΩ] Corrected 40°C (Thermoplastic)
2220	0.320	6938	2453

### DA/PI Results

Time [Minute(s)]	Voltage [V]	I [μA]	IR [MΩ]
00:15	550	0.119	4121.85
00:30	550	0.103	4339.81
00:45	550	0.092	4978.26
01:00	550	0.088	5250.00
01:30	550	0.077	7142.86
02:00	550	0.072	8638.89
02:30	550	0.069	9971.01
03:00	550	0.064	10593.75
04:00	550	0.061	11016.39
05:00	550	0.058	11482.76
06:00	550	0.055	12000.00
07:00	550	0.053	12377.36
08:00	550	0.050	13000.00
09:00	550	0.047	13702.13
10:00	550	0.048	13458.33



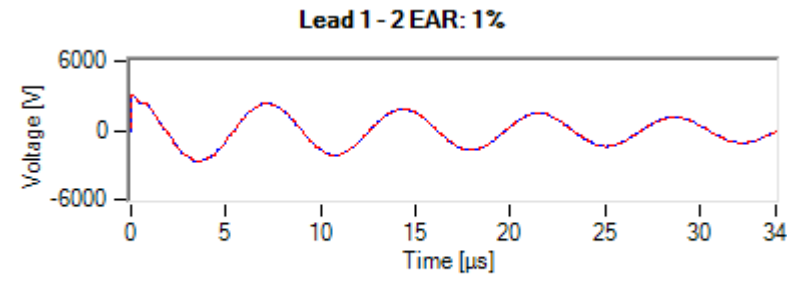


## Surge Lead-to-Lead Comparison

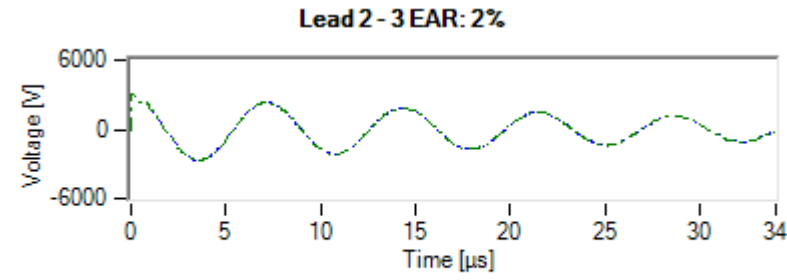
KOZA ALTIN\TZFC1-STR\09/02/2019 09:08:33 AM

**L-L Limit 5**

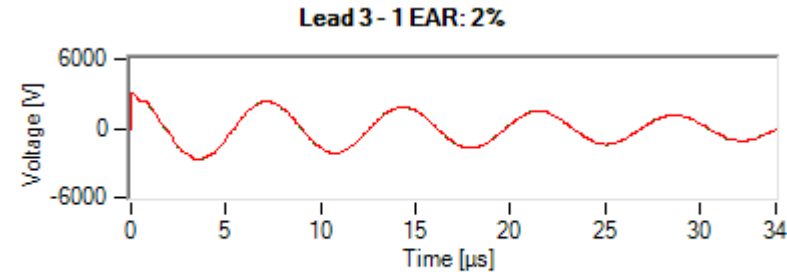
Compare	Peak Voltage [V]	Number of Pulses	LL EAR Status	L-L EAR [%]
1-2	2020	29	PASS	3
2-3	2050	28	PASS	4
3-1	2020	42	PASS	1



Lead 1 Lead 2



Lead 2 Lead 3



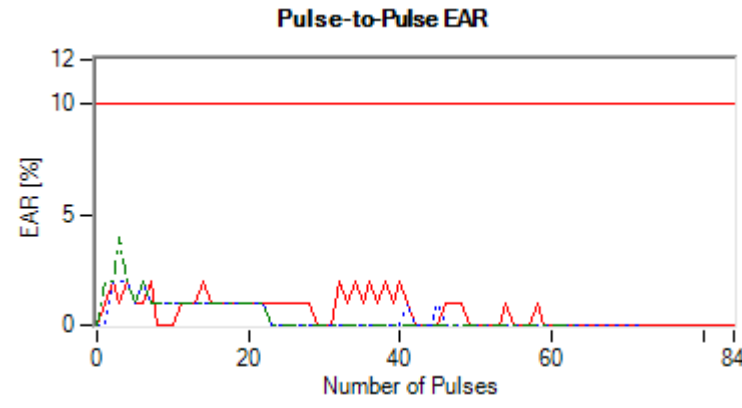
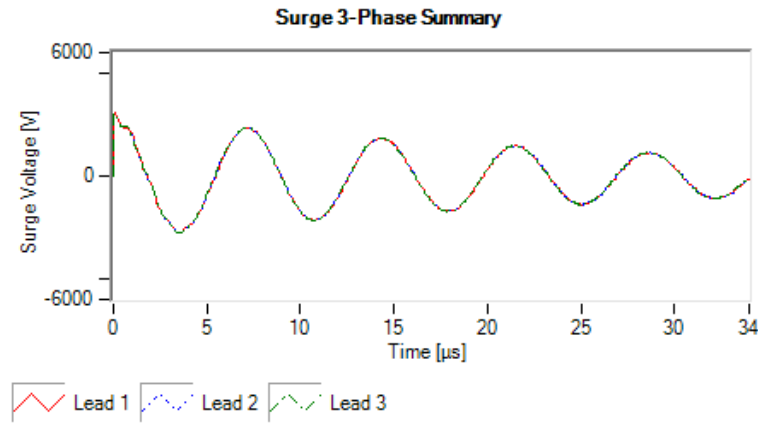
Lead 3 Lead 1

## Surge 3-Phase Summary

KOZA ALTIN\TZFC1-STR\09/02/2019 09:08:33 AM

**P-P Limit 10**

Lead	Peak Voltage [V]	Number of Pulses	PP EAR Status	Max P-P EAR [%]
1	2020	29	PASS	2
2	2050	28	PASS	2
3	2020	42	PASS	4



## AÇIKLAMA

Montaj / Demontaj Operatörü	Test ve Kontrol Sorumlusu	Genel Müdür
Hakan ALLAK	Elektrik ve Elektronik Yüksek Mühendisi Coşkun ARSLAN	Numan OMURCA

## ROTOR STATİK TEST

### Resistance / Inductance / Capacitance Results

KOZA ALTINTZFC1-RTR\06/24/2019 10:53:29 AM

Temperature 131.00 [°F]

#### Resistance

	Lead 1-2	Lead 2-3	Lead 3-1	Unbalance [%]	Average
DC Resistance [mΩ]	18.0107	18.0361	17.8821	0.5	17.9763
Temp Corrected R [mΩ]	16.6885	16.6885	16.5958		16.6576

#### Inductance

Frequency [Hz]	60.0	60.0	60.0		
Impedance [mΩ]	503.419	503.776	506.490	0.4	504.562
Impedance Ang [°]	86.4	86.3	86.4	0.0	86.4
Inductance [mH]	1.333	1.334	1.341	0.4	1.336
Dissipation Factor	0.064	0.064	0.064		
Quality Factor	15.693	15.658	15.748		



## DC Test Results

KOZA ALTIN\TZFC1-RTR\06/22/2019 09:27:02 AM

Temperature [°F] 143.6 Relative Humidity [%] 20.0

### IR Results

Voltage [V]	I [μA]	IR [MΩ]	IR [MΩ] Corrected 40°C (Thermoplastic)
750	1.710	439	2015

### DA/PI Results

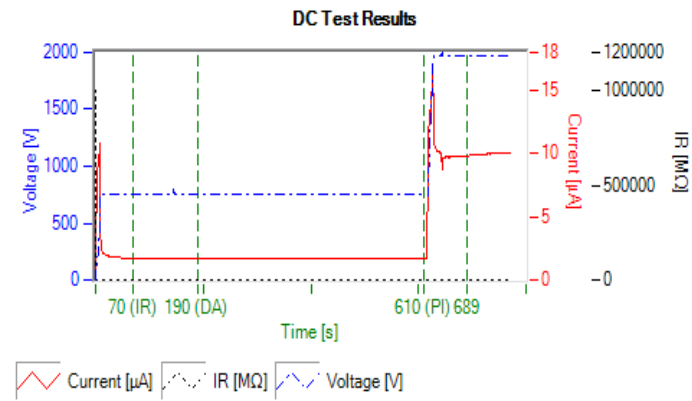
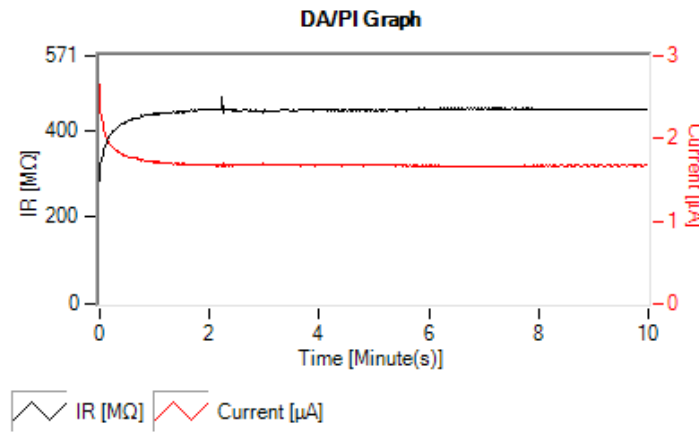
Voltage [V]	DA Ratio	PI Ratio
750	2.0	2.1

### HiPot Result

Voltage [V]	I [μA]	IR [MΩ]	IR [MΩ] Corrected 40°C (Thermoplastic)
1970	9.790	201	925

### DA/PI Results

Time [Minute(s)]	Voltage [V]	I [μA]	IR [MΩ]
00:15	750	1.890	296.83
00:30	750	1.790	318.99
00:45	750	1.750	428.57
01:00	750	1.710	538.60
01:30	750	1.690	643.79
02:00	750	1.680	746.43
02:30	750	1.690	943.79
03:00	750	1.700	1041.18
04:00	750	1.680	1046.43
05:00	750	1.680	1107.43
06:00	750	1.670	1119.10
07:00	750	1.670	1122.10
08:00	750	1.670	1149.10
09:00	750	1.680	1146.43
10:00	750	1.680	1149.43



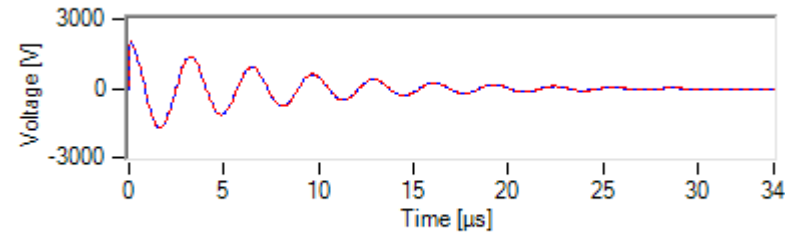
## Surge Lead-to-Lead Comparison

KOZA ALTIN\TZFC1-RTR\06/22/2019 09:29:22 AM

**L-L Limit 5**

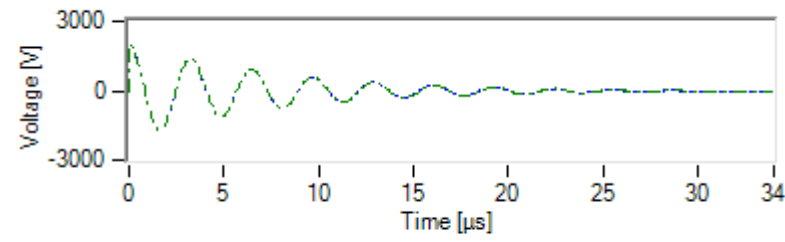
Compare	Peak Voltage [V]	Number of Pulses	LL EAR Status	L-L EAR [%]
1-2	1970	15	PASS	3
2-3	1970	25	PASS	2
3-1	1970	34	PASS	1

**Lead 1 - 2 EAR: 3%**



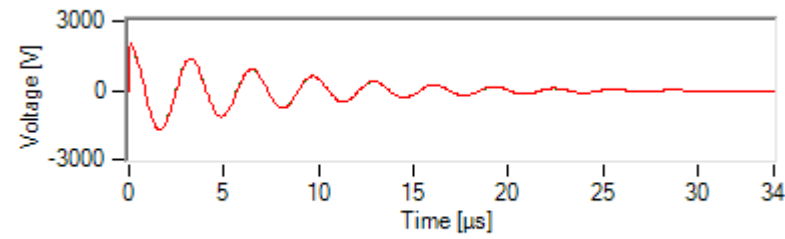
Lead 1 Lead 2

**Lead 2 - 3 EAR: 2%**



Lead 2 Lead 3

**Lead 3 - 1 EAR: 1%**



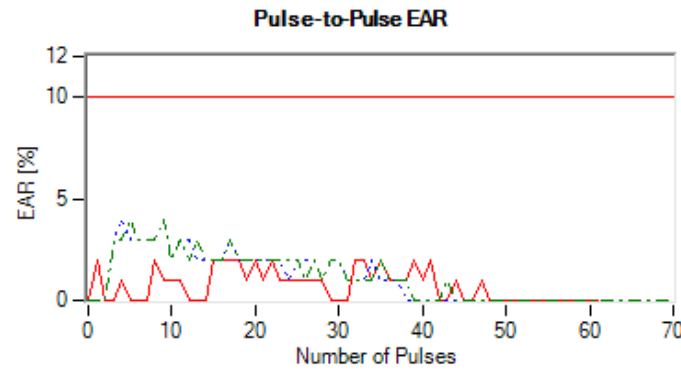
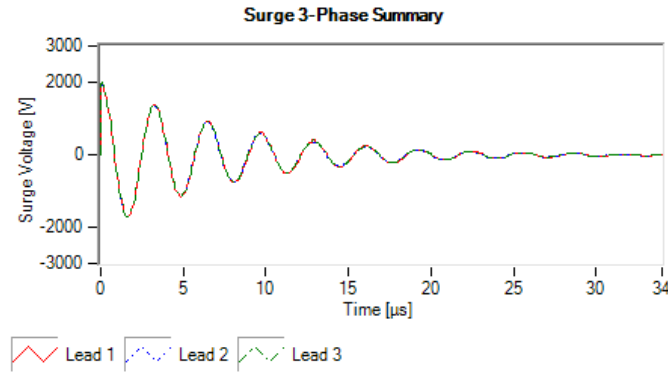
Lead 3 Lead 1

## Surge 3-Phase Summary

KOZA ALTIN\TZFC1-RTR\06/22/2019 09:29:22 AM

**P-P Limit 10**

Lead	Peak Voltage [V]	Number of Pulses	PP EAR Status	Max P-P EAR [%]
1	1970	15	PASS	2
2	1970	25	PASS	4
3	1970	34	PASS	4



## AÇIKLAMA

Montaj / Demontaj Operatörü	Test ve Kontrol Sorumlusu	Genel Müdür
Hakan ALLAK	Elektrik ve Elektronik Yüksek Mühendisi Coşkun ARSLAN	Numan OMURCA

## TİTREŞİM RAPORU

BU MAKİNEDE TİTRESİM ANALİZİYLE TANIMLANABİLECEK BİR ARIZA GÖRÜLMEMİŞTİR.

OLCUM ZAMANI: 11.09.2019 03:22:39 Speed: 1XM = 1500

MAKSİMUM SEVİYE 0,35 (11%) mm/s at 1,00x on 2T

### ORTA MOTOR TAHRİK TARAF RULMAN DEMOD SEVİYESİ

Teshise neden olan bulgular: Bearing sum = 60 dB in 2R

Bearing tone harmonics in demod spectrum with harmonic match between regular and demod spectrum in 2R

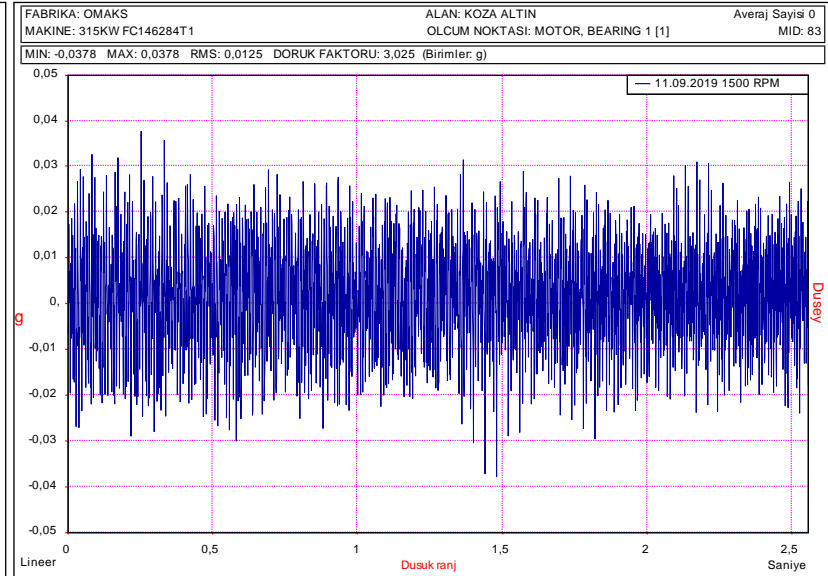
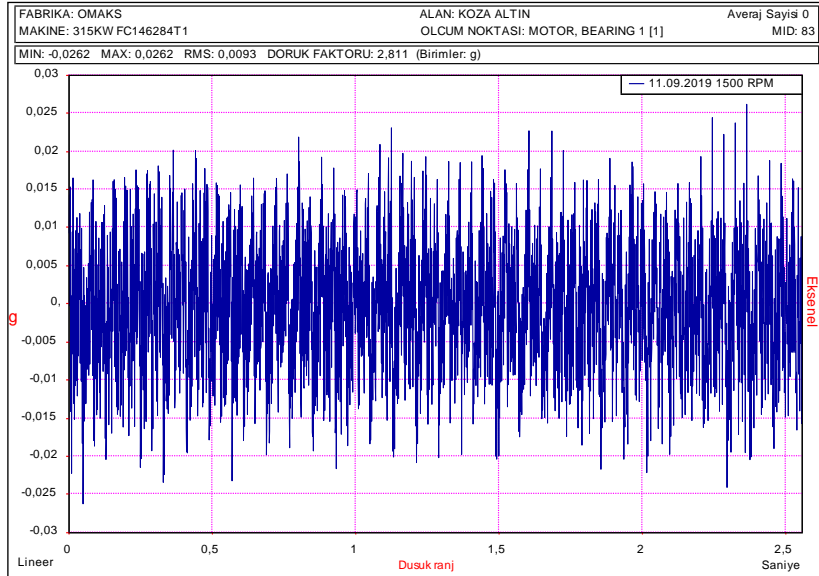
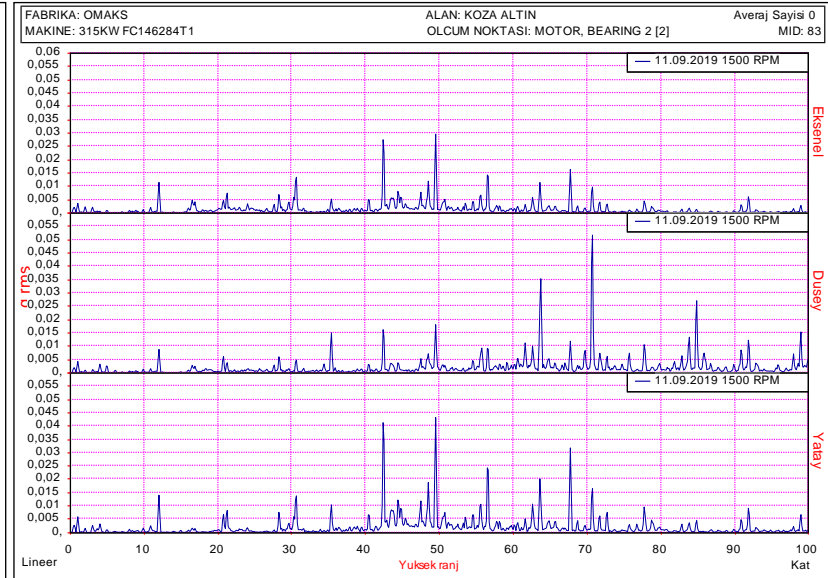
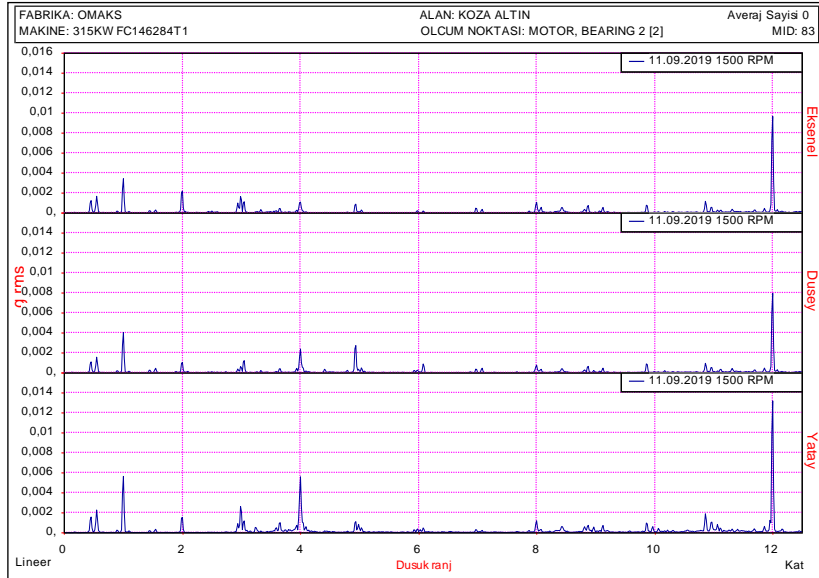
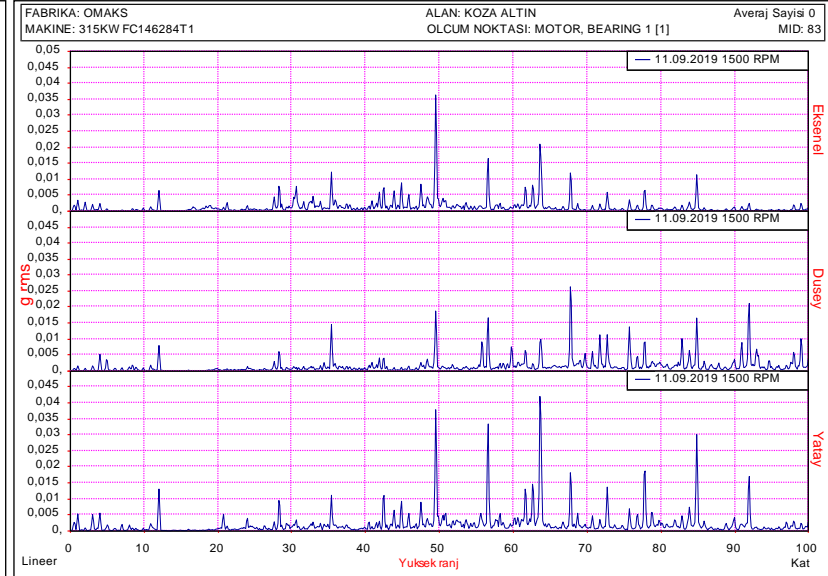
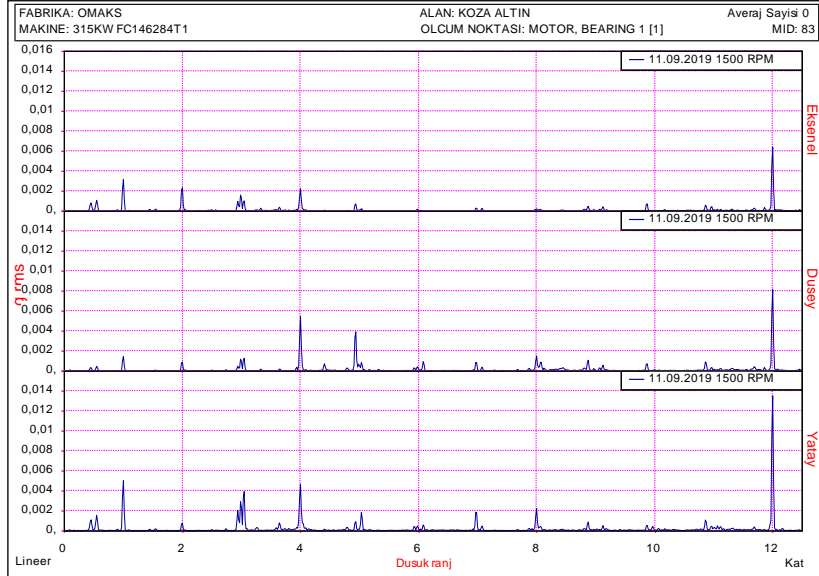
Driver rate sidebands exist in 2R

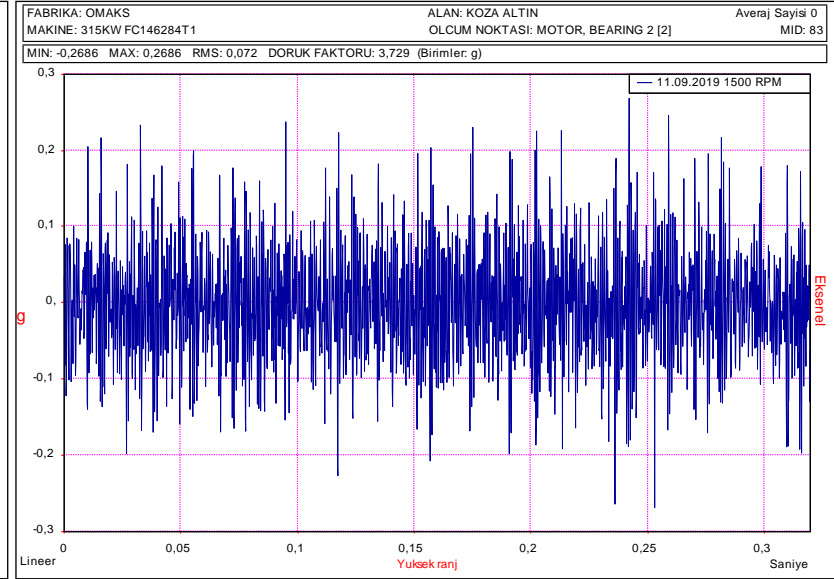
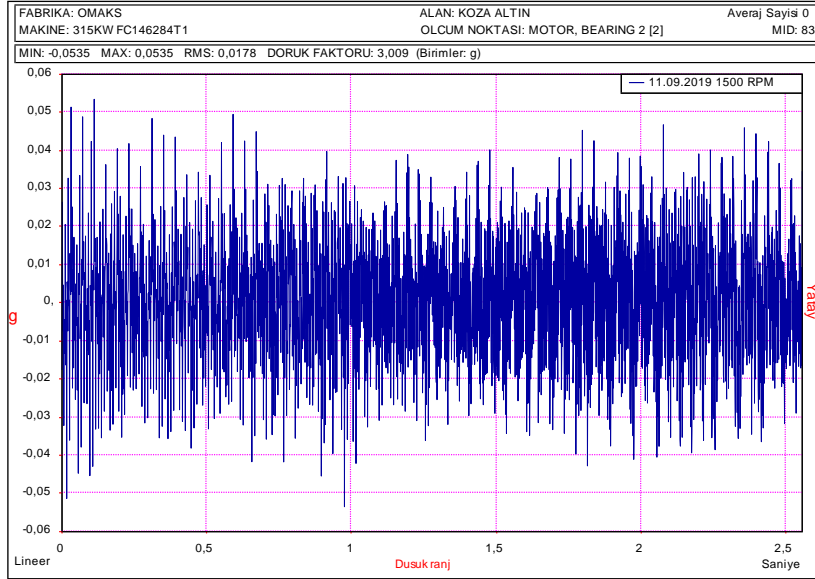
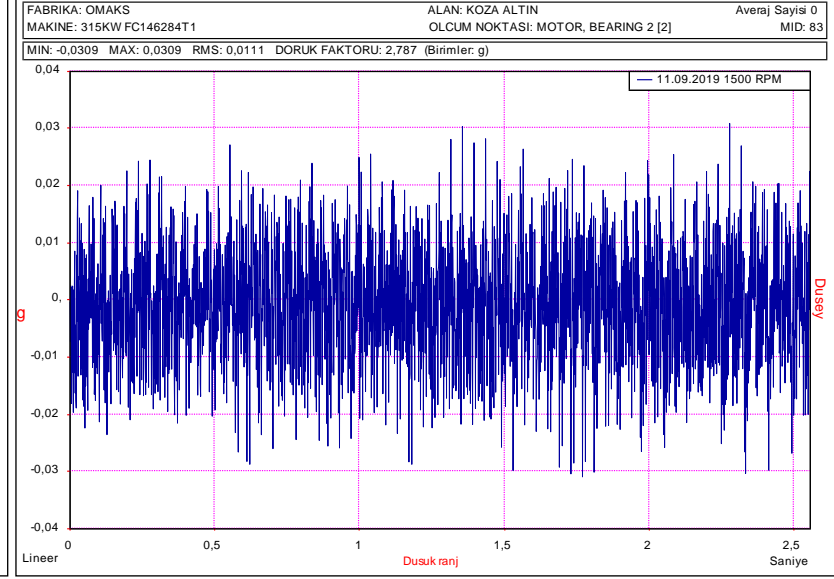
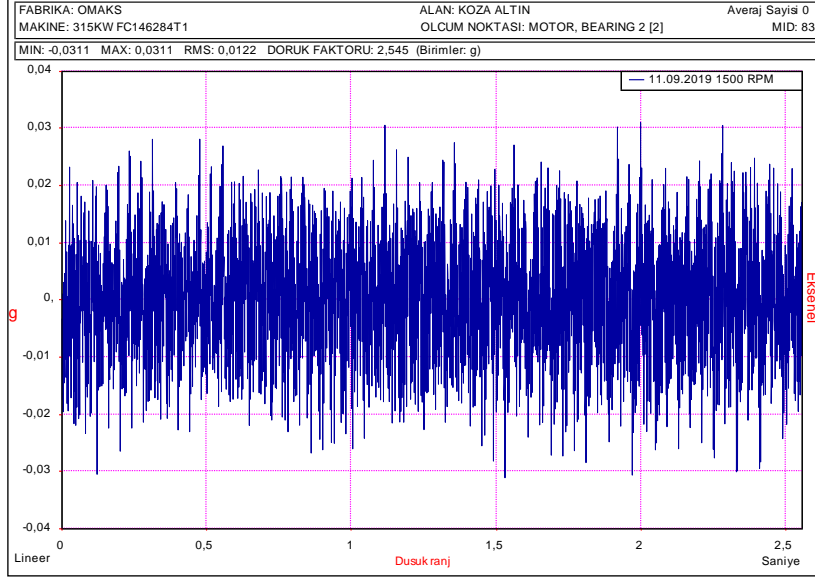
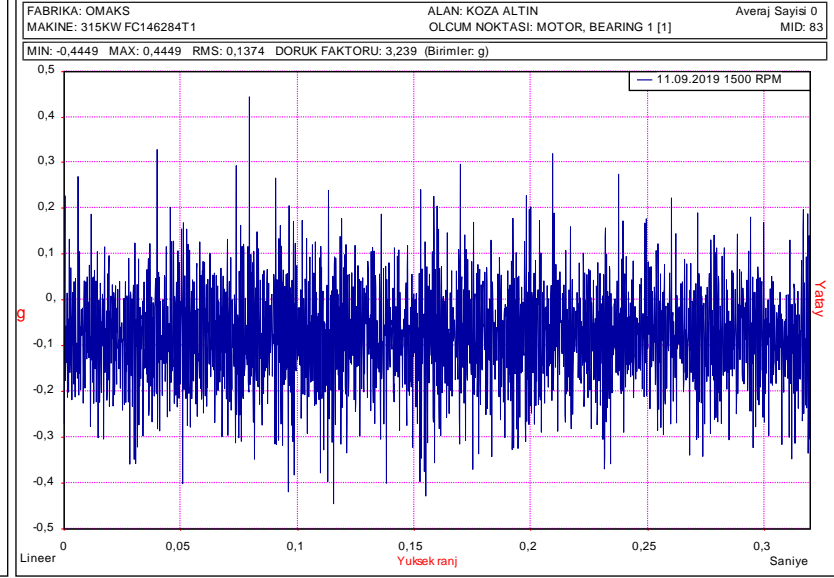
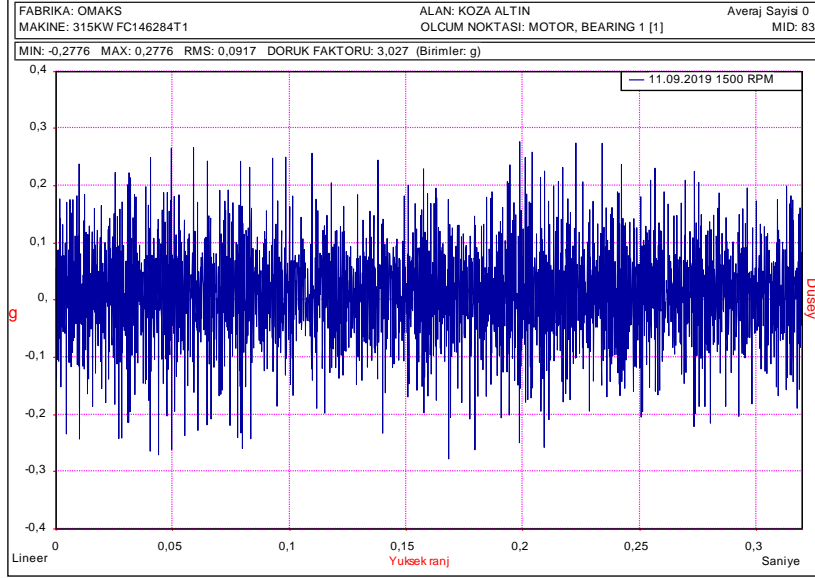
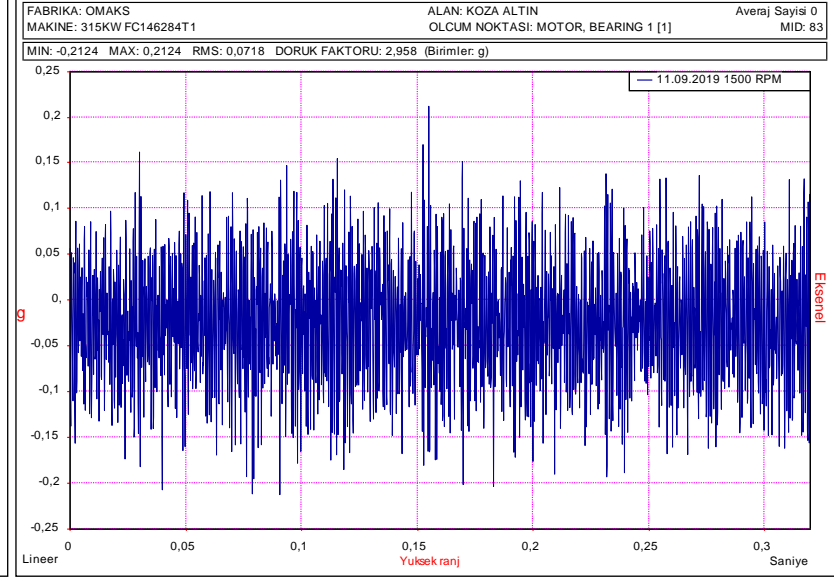
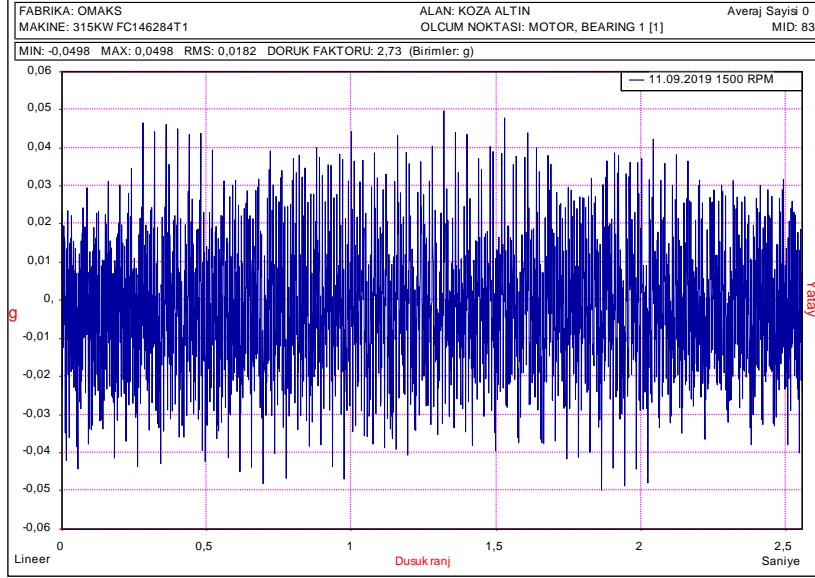
### HAFİF MOTOR SERBEST TARAF RULMAN DEMOD SEVİYESİ

Teshise neden olan bulgular: Bearing sum = 48 dB in 1R

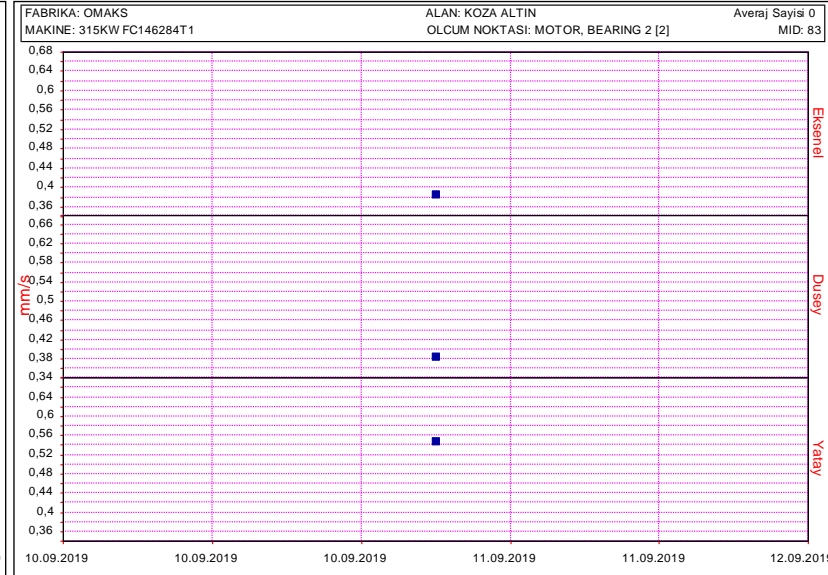
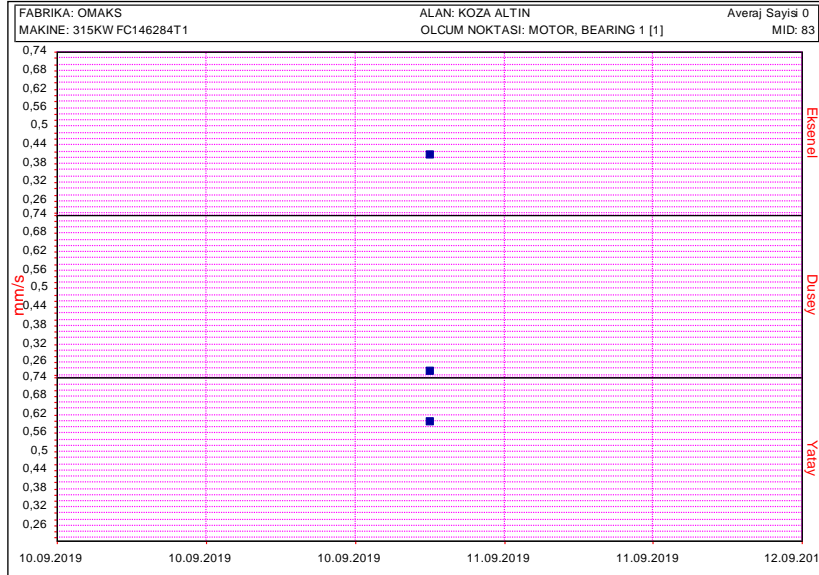
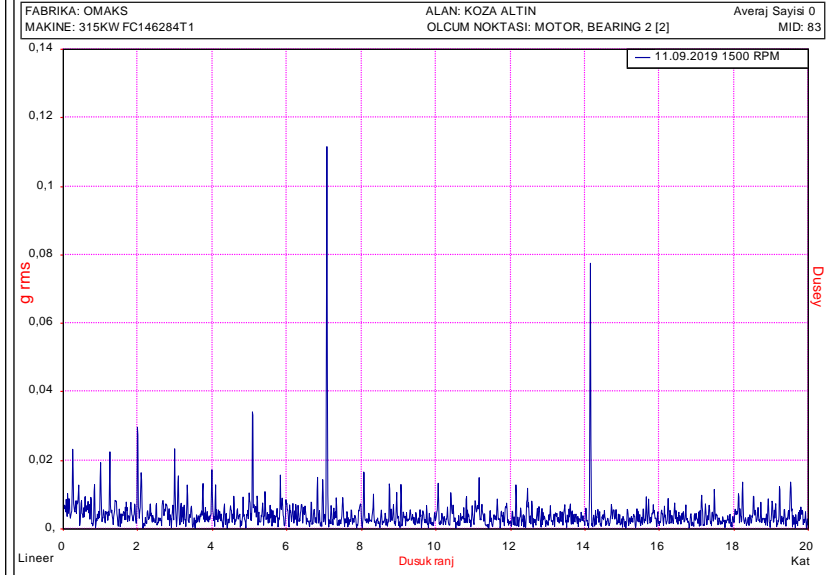
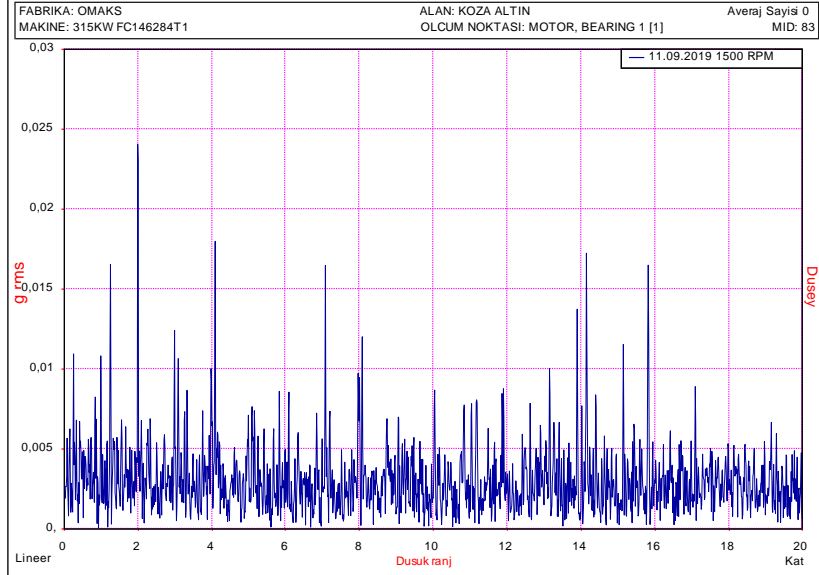
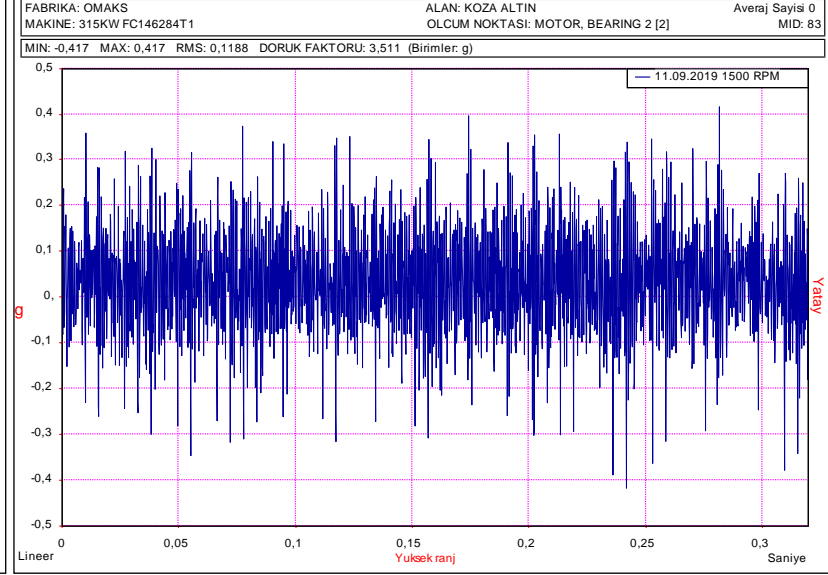
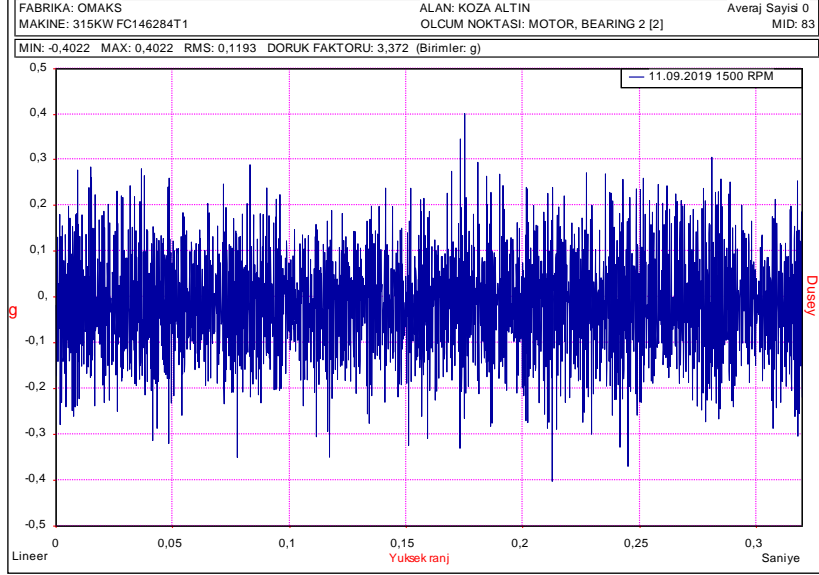
Bearing tone harmonics in demod spectrum with harmonic match between regular and demod spectrum in 1R

Driver rate sidebands exist in 1R









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